3. Neolithisation Processes in the Northern Aegean

The study of the neolithisation of South-eastern Europe would have proven impossible without an appreciation of the developments within the northern Aegean and, above all, western Anatolia. After 6100 calBC, a complete Neolithic package consisting of the most important grain cultures and pulses, domesticated animals, an advanced settlement form, and an already well-developed grindstone and ceramic technology was spread into the southern Carpathian Basin by way of the Balkans. Many theoretical posits as to the autochthonous development of this complex package on the basis of the local Mesolithic (cf. Srejović 1973, 176–180) have been disproven by more recent research. The region of the northern Fertile Crescent is the only region in which not only the most important grain cultivars such as einkorn, emmer, and barley occur in their wild forms, but also the ancestors of domestic sheep and goats (Watkins 2007). Even the theoretical possibility that cattle and pig (at the very least) might have been locally domesticated from wild European variants seems unlikely at best in the wake of the results of recent palaeogenetic studies (Scheu 2012. – Geörg 2013). The development of the earliest pottery of the South-eastern European Neolithic is also only comprehensible in light of the history of the earliest ceramic development in western Anatolia and the northern Aegean. For this reason, I will first briefly describe the development in the northern Aegean region, which is of direct importance for the neolithisation of South-eastern Europe. I am limiting the overview to the south of our study area to central western Anatolia and Thessaly because important stimuli for the introduction of pottery to South-eastern Europe emanate therefrom. Northern Greece, the Marmara, and the Porsuk-Sakarya region are also briefly considered because they are located adjacent to the Balkans (Fig. 49).

The period of the neolithisation of the regions north of the Aegean and the Marmara Sea falls within the transition of the Late Neolithic to the Early Chalcolithic in the terminology employed for Anatolia. While few metallic finds are preserved from the 6th millennium within western Anatolia, the criterion of 'vessel painting' was originally decisive for the distinction of the Chalcolithic from the preceding Neolithic in the south-western Anatolian Lakes region (Pisidia). Painted ceramics are characteristic of the Chalcolithic, while overwhelmingly monochrome-slipped vessels are extant from the Neolithic (Schoop 2005, 14–17). Ultimately, this division rests solely upon the ceramic trajectory at Hacılar (cf. Mellaart 1970). Both there and at most other known sites in western Anatolia, a continuous development in ceramics without any remarkable interruptions may be observed. This terminology is thus the mere product of the history of prior research.

3.1. The Region of Izmir

Research in recent years has uncovered an entirely new landscape of finds within the region of central western Anatolia, from which the impetus for the dissemination of the Neolithic into the Balkan region clearly began. A characteristic of the landscape there is its openness to the west by means of the great rivers discharging into the Aegean from the Anatolian plateau. It is therefore hardly unsurprising that current suggestions indicate a neolithisation of western Anatolia occurring not along routes from inland (cf. Özdoğan 2011, 25–30) but rather via seaways. Indeed, Çiler Çilingiroğlu has highlighted the distribution of impresso pottery as evidence for maritime routes stretching from the Levant up to the Aegean (Çilingiroğlu 2010). The work

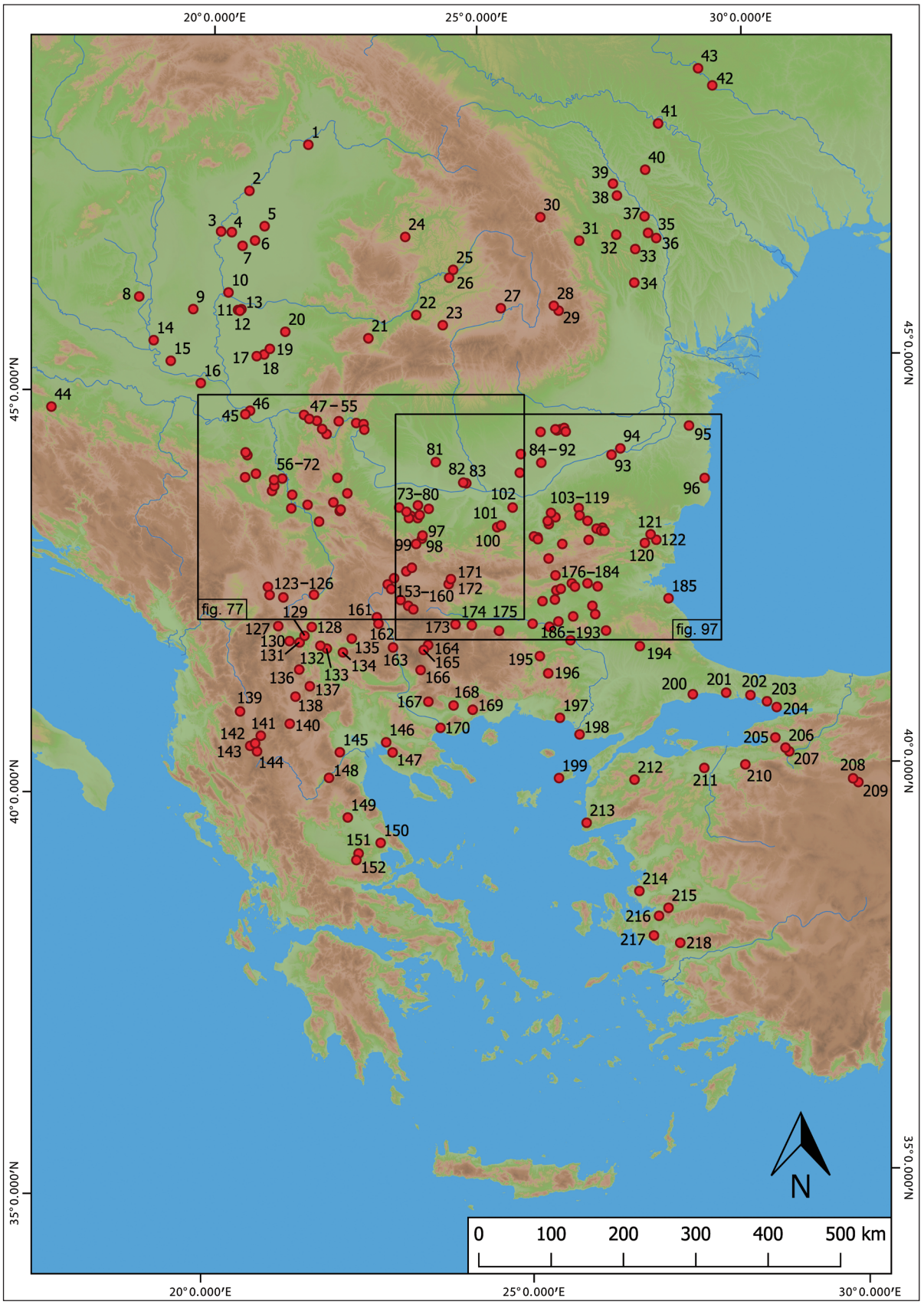


Fig. 49: Map of Neolithic sites in South-eastern Europe and sites of the Turkish Neolithic and Chalcolithic mentioned in the text. See detailed description next page.

Fig. 49: Map of Neolithic sites in South-eastern Europe and sites of the Turkish Neolithic and Chalcolithic mentioned in the text. – 1. Ibrány-Nagyerdő. – 2. Tiszaszőlős-Domaháza. – 3. Nagykörű. – 4. Szolnok-Szanda. – 5. Ecsegfalva 23. – 6. Endrőd. – 7. Szarvas-Egyházföld. – 8. Alsónyék-Bátaszék. – 9. Nosa-Biserna Obala. – 10. Maroslele-Pana. – 11. Movila lui Deciov. – 12. Kalcsov I. – 13. Bucova Pusta IV. – 14. Magareći Mlin. – 15. Donja Branjevina. – 16. Golokut. – 17. Foeni Gaz and Foeni Sălaș. – 18. Giulvăz. – 19. Parța. – 20. Timișoara-Fratelia. – 21. Cauce Cave. – 22. Șeușa-La Cărarea Morii. – 23. Ocna Sibiului. – 24. Gura Baciului. – 25. Moreşti. – 26. Cipău. – 27. Rupea. – 28. Turia-La Silozuri. – 29. Leț. – 30. Dîrțu-Ceahlău. – 31. Traian. – 32. Suceava-Parcul Cetății and Suceava-Câmpul Șanțurilor. – 33. Probota. – 34. Perieni. – 35. Balș. – 36. Trestiana. – 37. Valea Lupului. – 38. Larga Jijia. – 39. Glăvănești Vechi. – 40. Sacarovca. – 41. Soroki I, II and III. – 42. Baz'kov Ostrov. – 43. Sokol'cy I and VI. – 44. Ludaš-Budžak. – 45. Vinča. – 46. Starčevo. – 47. Pojejena-Nucet. – 48. Moldova Veche-Rât. – 49. Gornea. – 50. Padina. – 51. Lepenski Vir. – 52. Cuina Turcului. – 53. Ostrovul Golu. – 54. Schela Cladovei. – 55. Ajmana-Mala Vrbica. – 56. Svinjarička Čuka. – 57. Banya Aranđelovac. – 58. Grivac. – 59. Divostin. – 60. Belica. – 61. Svetozarevo (Jagodina)-Bunar. – 62. Tečić. – 63. Blagotin. – 64. Drenovac. – 65. Ornice-Makrešani. – 66. Crnokalačka Bara. – 67. Bubanj. – 68. Dubrava. – 69. Kučajna. – 70. Jelašnica. – 71. Knjaževac. – 72. Kadijski Krst. – 73. Gradeshnitsa-Malo Pole and Gradeshnitsa-Lukanovo Darvo. – 74. Devene. – 75. Ohoden. – 76. Banitsa. – 77. Tlachene. – 78. Komarevo. – 79. Altimir. – 80. Byala Slatina. – 81. Cîrcea-La Hanuri and Cîrcea-Viaduct. – 82. Vădastra. – 83. Grădinile-La Islaz. – 84. Măgura Buduiasca. – 85. Dulceana. – 86. Drăghiceanu. – 87. Bolintineanu. – 88. Giulești. – 89. Dudești. – 90. Malu Roșu. – 91. Fundeni. – 92. Cernica. – 93. Malak Preslavets. – 94. Boian. – 95. Medgidia-Cocoașă. – 96. Durankulak-Nivata. – 97. Zakonitsa. – 98. Beshovitsa. – 99. Rebarkovo. – 100. Devetaki Cave. – 101. Krushuna. – 102. Balgarsko Slivovo. – 103. Hotnitsa Cave, Hotnitsa Waterfall and Hotnitsa Bear's Hole. – 104. Samovodene. – 105. Small and large caves at Preobrazhenski Monastery. – 106. Golyamata Lisitsa, Plochite and small and big cave at Veliko Tarnovo. – 107. Dzhulyunitsa. – 108. Strelets-Eren Bunar. – 109. Orlovets. – 110. Chakmaktepe. – 111. Koprivets. – 112. Pomoshtitsa. – 113. Drinovo. – 114. Podgoritsa. – 115. Polyanitsa-Platoto. – 116. Ovcharovo-Platoto. – 117. Ovcharovo-Gorata. – 118. Ovcharovo-Zemnika. – 119. Zelena Morava. – 120. Usoe. – 121. Dalgopol-Balkuzu. – 122. Golyamo Delchevo. – 123. Karagač-Žitkovac. – 124. Rudnik. – 125. Gladnice. – 126. Pavlovac-Gumnište and Pavlovac-Čukar. – 127. Tumba Stenče. – 128. Na Breg. – 129. Tumba Mađari. – 130. Govrlevo. – 131. Zelenikovo. – 132. Rug Bair. – 133. Anzabegovo. – 134. Vršnik. – 135. Grnčarica. – 136. Kutline. – 137. Radin Dol. – 138. Čuka. – 139. Rayc. – 140. Veluška Tumba and Porodin. – 141. Podgorie. – 142. Dunavec. – 143. Vashtëmi. – 144. Barç. – 145. Nea Nikomedeia. – 146. Thessaloniki. – 147. Thermi. – 148. Servia. – 149. Achilleion. – 150. Sesklo. – 151. Otzaki. – 152. Argissa. – 153. Kremikovtsi. – 154. Slatina. – 155. Pernik. – 156. Priboy. – 157. Negovantsi. – 158. Galabnik. – 159. Kraynitsi. – 160. Sapareva Banya. – 161. Nevestino. – 162. Vaksevo. – 163. Balgarchevo. – 164. Eleshnitsa. – 165. Dobrinishte. – 166. Kovachevo. – 167. Toumba Serron. – 168. Sitagroi. – 169. Dikili Tash. – 170. Kryoneri. – 171. Chelopech. – 172. Chavdar. – 173. Rakitovo. – 174. Kapitan Dimitrievo. – 175. Muldava. – 176. Kaloyanovets. – 177. Sarnevo. – 178. Azmak. – 179. Stara Zagora-County Hospital. – 180. Kazanlak. – 181. Karanovo. – 182. Ezero. – 183. Glufishevo. – 184. Veselinovo-Maleva Mogila. – 185. Primorsko. – 186. Yabalkovo. – 187. Nova Nadezhda. – 188. Simeonovgrad-Chavdarova Cheshma. – 189. Lyubimets. – 190. Mednikarovo. – 191. Drama-Gerena, Drama-Kayryaka and Drama-Merdzhumekya. – 192. Knyazhevo-Rovnishte. – 193. Lesovo-Spring and Lesovo-Dyadopaneva Vodenitsa. – 194. Aşağı Pınar. – 195. Kardzhali. – 196. Krumovgrad. – 197. Makri. – 198. Hoca Çeşme. – 199. Uğurlu. – 200. Toptepe. – 201. Yarımburgaz. – 202. Istanbul- Yenikapı. – 203. Fikirtepe. – 204. Pendik. – 205. Ilıpınar. – 206. Menteşe. – 207. Barcın Höyük. – 208. Demircihüyük. – 209. Orman Fidanlığı. – 210. Aktopraklık. – 211. Musluçeşme. – 212. Çalca. – 213. Coşkuntepe. – 214. Ege Gübre. – 215. Ulucak. – 216. Yeşilova. – 217. Dedecik-Heybelitepe. – 218. Çukuriçi Höyük (for detailed maps see Figs. 77, 97) (R. Krauß, B. Dutilleux).

group around Barbara Horejs was able to illustrate how the exchange of obsidian connected western Anatolia with the world of the Cycladic islands (Bergner, Horejs, Pernicka 2009. – Milić, Horejs 2017). To this might be added evidence of fishing on the high seas as demonstrated by the skeletal material of various types of fish at Çukuriçi Höyük (Galik, Horejs 2011, 90). Various tapering projectile points fashioned from silex blades are reminiscent of the characteristic Byblos points of the northern Fertile Crescent, and may well serve as an additional indication of direct contact between the northern Levant and western Anatolia.[7]

Certainly, a maritime-led neolithisation of western Anatolia hardly excludes contact between those Neolithic sites known from the Konya Plain and from Pisidia. Rather, it is very plausible that this contact occurred by means of the maritime route and not directly over the Anatolian plateau. Admittedly, any evidence of Neolithic coastal settlements along the southern Anatolian coastline is currently lacking (see, however, Duru 2012, fn. 25), although this may well be due to the underdeveloped state of research in the region. Maxime Brami and Volker Heyd suppose two different routes of neolithisation within Anatolia: on the one hand, a landlocked extension of the Neolithic into the Marmara Region to the north-west and, on the other hand, a maritime-based neolithisation spreading westwards into the Aegean and into central western Anatolia. The former axis of dissemination is indicated by the black polished ceramic ware, the latter by the red-slipped pottery (Brami,

7. I was able to view such projectile tips from Çukuriçi Höyük in October 2013 in the Austrian excavation house at Ephesus; I thank Barbara Horejs for this opportunity.



Fig. 50: Ulucak VI. House floors (after Çilingiroğlu, Çevik, Çilingiroğlu 2012, fig. 37).

Heyd 2011, 178–184). The appearance of impresso pottery would thus describe a third wave of neolithisation also reaching the Aegean and western Anatolia by means of the seaways (Brami, Heyd 2011, 184–186).

The Neolithic-Chalcolithic cultural sequence of the Izmir region is primarily to be observed at the mound of Ulucak some 20 km east of the harbour city which evidences a long sequence of settlement from the earliest Neolithic all the way into the Early Bronze Age.[8] The excavations conducted since 1995 were able to unearth an unbroken sequence of levels spanning from the Early Neolithic until the Early Chalcolithic which were grouped into Settlement Horizons VI to IV on the strength of the construction types of the houses (Çilingiroğlu et al. 2004. – Çilingiroğlu, Abay 2005. – Çilingiroğlu, Çilingiroğlu 2007. – Çilingiroğlu, Çevik, Çilingiroğlu 2012). Following a considerable interruption in settlement, the mound was occupied once more in the Middle Chalcolithic (Ulucak III) and, following further hiatuses, in the Early Bronze Age (II) and in the Roman-Byzantine era (I).

The earliest horizon, Ulucak VI, has been excavated since 2008 and could only be exposed within a small area of some 90 m² (Çilingiroğlu, Çevik, Çilingiroğlu 2012, 148). A peculiarity of these early settlement phases is one house floor which is composed of a thick layer of cast lime mortar painted red on the surface (Çilingiroğlu 2011, fig. 1) (Fig. 50). The notion presents itself that this particular manner of floor construction might be connected with the so-called 'terrazzo' floors of particularly prominent buildings within settlements of the Pre-Pottery Neolithic B

8. I am very grateful to Çiler Çilingiroğlu, who successfully submitted a dissertation on the mound of Ulucak at the Eberhard Karls University of Tübingen, for her insights in approaching the topic of Neolithic-Chalcolithic cultural development within the Izmir region.

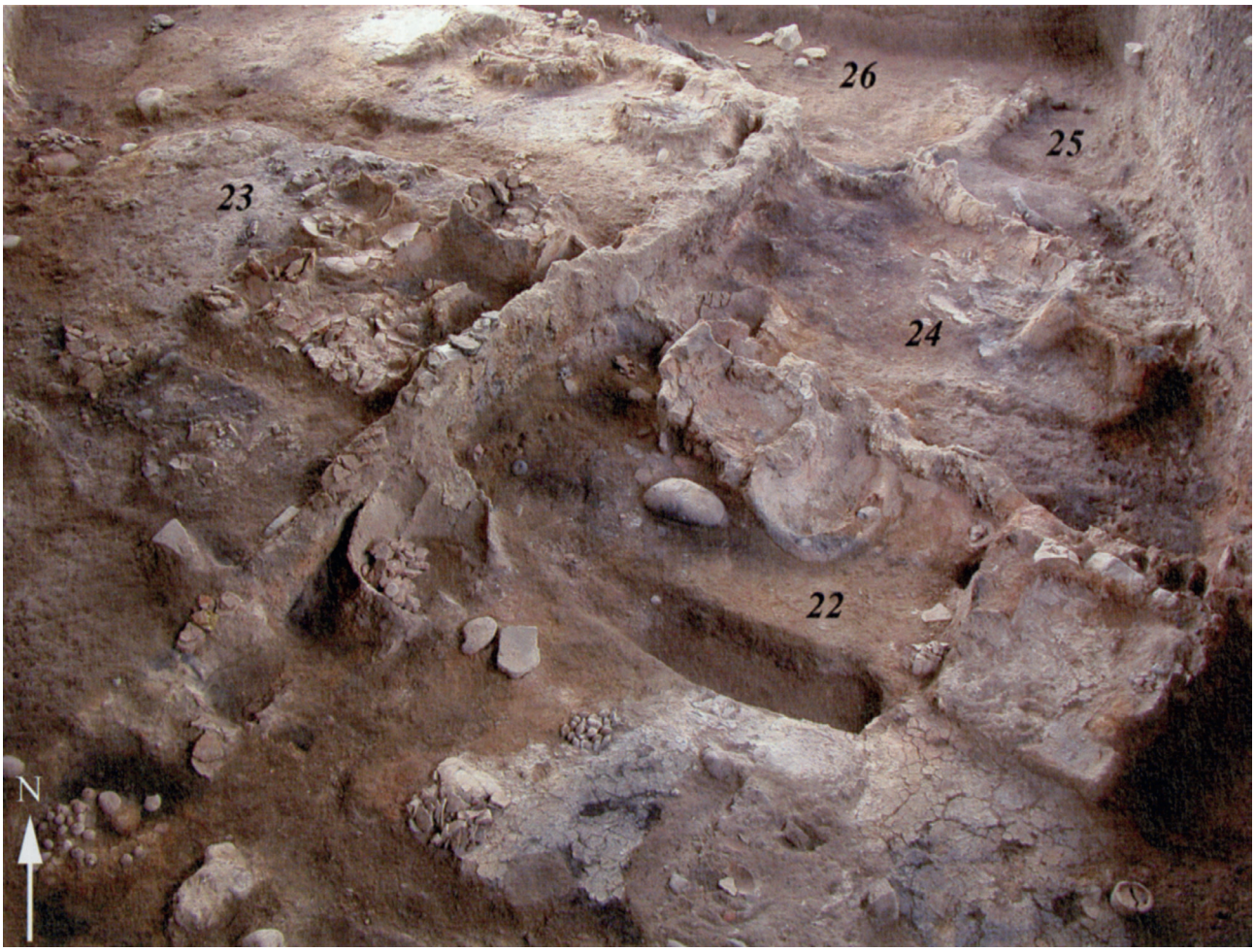


Fig. 51: Ulucak Va. Building features (after Çilingiroğlu, Çevik, Çilingiroğlu 2012, fig. 17).

(PPNB) in the Levant, northern Mesopotamia, and eastern Anatolia. Any direct influence from that period, nevertheless, has proven, as yet, to be contradicted by chronology as even the earliest dates from Ulucak derive from a period some 500 years after the end of the PPNB in eastern Anatolia (Çilingiroğlu 2012, 153). Nevertheless, both phenomena may well be structurally related, if a further aspect be brought into consideration: as yet, not a single find of pottery could be evidenced within the earliest levels of Ulucak, although the remaining finds reflect those from the conventional Neolithic spectrum. Should future research at Ulucak prove that the PPNB could have spread to the westernmost reaches of Anatolia, then this discovery would be of considerable cultural-historical consequence. Up to the present, Mehmet Özdoğan has generally proceeded from a model of cultural zones, according to which the Neolithic lifestyle first travelled from a core area in south-eastern Anatolia to south-western and western Anatolia in a second stage (Özdoğan 2010, 887–888. – Özdoğan 2011, 24–30). This secondary zone of neolithisation would be characterised by the appearance of an already fully developed Neolithic package at some point in the mid-7th millennium (Özdoğan 2007, 143–144). Should the PPNB already have spread to Anatolia's extreme west, then the question must be discussed anew as to whether the ceramic Neolithic of western Anatolia might not, indeed, have autochthonously emerged on this basis (cf. Brami, Heyd 2011, 186–193). The chronological gradient of the earliest appearance of the Neolithic appears secondary in significance within this question as a Neolithic in the tradition of the PPN may well have long survived the end of this phenomenon within the region of the Fertile Crescent, for example in the case of Cyprus (cf. Guilaine, Le Brun 2003. – McCartney 2010). In addition to the absence of pottery vessels, the tradition of circular buildings plays a role in this discussion (Peltenburg 2001). While the narrow insights into the earliest settlement phase of Ulucak presently available offer nothing in the manner of indications for circular buildings, stone foundations of



Fig. 52: Ulucak IV. House foundations (after Çilingiroğlu 2011, fig. 8).



Fig. 53: Ulucak Vb, building 30. Red-slipped vessels with tubular lugs (after Çilingiroğlu 2011, fig. 3).

such structures are preserved from Ege Gübre not far away, which might, in turn, be associated with those discovered on Cyprus (Sağlamtimur 2011). Moreover, these connections emphasise once again the maritime networks at play in the expansion of the Neolithic into western Anatolia (Brami, Heyd 2011, 186).

The structures of the horizon Ulucak V consist of wattle-and-post constructions built against one another so that they each share a wall (Çilingiroğlu, Çevik, Çilingiroğlu 2012, 145) (Fig. 51). The ceramic find material of the levels Ulucak Ve–a is characterised by rounded, softly profiled forms, among these S-profiled bowls and tall, thin pots with conical or slightly tulip-shaped walls and a (presently) singular so-called Red Cross Bowl. Typical are feet that are only slightly, if still distinctively removed from the vessel base. Furthermore, very long tubular lugs and simple pierced knobs are found on handles (Çilingiroğlu, Çilingiroğlu 2007, figs. 24–25). Also noteworthy is the complete lack of wares adorned with impressions, these first appearing from Ulucak Va onwards. Did the maritime influence first become tangible within this phase (cf. Çilingiroğlu 2010) or is a secondary expansion of the maritime networks present here? Further attested within Ulucak Va are long and also short tubular lugs and small pierced knobs. In addition to this might be included painted pottery with red paint on a beige background and with beige paint on a red background, which nevertheless assumes only a small portion of the spectrum.[9] In the uppermost level of Horizon V, transformations are already noticeable which would lead to a fundamentally altered settlement structure during Phase IV.

Crucial for the delineation of Ulucak IV's horizon is a novel building tradition. Now, large, single-layer stone foundations serving as the bases for walls constructed by means of mudbricks start to appear within the archaeological record (Çilingiroğlu, Çevik, Çilingiroğlu 2012, 142). These buildings are no longer built against one another but instead leave space between one other for a system of paths (Fig. 52). Not only the floors of houses but also open spaces are now frequently plastered with trampled clay. The walls are also plastered, with wall paintings even infrequently attested (Çilingiroğlu, Çevik, Çilingiroğlu 2012, 142–143). The spectrum of ceramic forms from Ulucak IVd–c is very similar to that in the levels lying below, although some more softly-profiled forms are also evidenced. Large vessels with a funnel neck clearly offset from the shoulder are new (Çilingiroğlu, Çilingiroğlu 2007, fig. 9, second vessel from top right). Red-on-beige painting remains common. Nevertheless, painting plays only a secondary role within the Izmir region, with only an ever-narrowing proportion of vessel pottery being painted throughout the layers. During Ulucak IVb–a, vessels with constricted necks or with cylindrical necks, clearly offset from the shoulder, develop from the vessels with offset funnel necks (Fig. 53). The parallels to the horizon of the developed Early Neolithic in the eastern Balkan sphere (Ovcharovo-Gorata/Karanovo II) are here most evident, as not only individual forms such as bulbous vessels with slightly outcurved rims and wide, large bowls but also the manner of the impressed adornment are similar. Some of the vessels do not possess knobs just beneath the belly. Vessels with an oval form now appear with greater intensity. In Ulucak IVb–a, oval feet are also attested.

An essential difference to the pottery in the eastern Balkan region is nevertheless presented by the absence of pronounced raised feet or proper stands (as appear copiously at Ovcharovo-Gorata and Karanovo II). By means of contrast, the feet in Ulucak IVb–a are either simply flattened or only slightly elevated by means of a flat pot stand (cf. Çilingiroğlu, Çilingiroğlu 2007, figs. 6, 9).

Remarkable at Ulucak is the technique of decorating vessels with a red slip, already attested with the appearance of the first pottery. The red-slipped wares become, in turn, ever more numerous in the course of the Neolithic-Chalcolithic trajectory. In terms of the cultural sequence in the southern Marmara region, the earliest bundle of layers of Ulucak Ve–a is to be associated with the lower deposits from Menteşe 3 or Archaic Fikirtepe. A series of ^{14}C dates place this development in the period between 6300 and 6200 calBC, and thus chronologically on the eve of the neolithisation of the eastern Balkan region. The Early Chalcolithic deposits of Ulucak IVk–e relate to the period immediately prior to 6000 calBC. These may be connected with Ilıpınar X and must reflect the Proto-Starčevo horizon in the central Balkans area. In northern Bulgaria, these may be compared with the finds from Polyanitsa-Platoto, the earlier material from Koprivets, and the finds from Dzhulyunitsa I. Further binding Dzhulyunitsa I and Ulucak IVk–e together are wares with a cream-coloured coating occurring at both sites (Krauss 2011b, fig. 2/3–4). It is accordingly also clear that it is only with Ulucak IVd–c that a synchronism might roughly be established with Karanovo I. This parallelisation is primarily supported by the connection between Ulucak IVb–a and parts of the material from Ovcharovo-Gorata which correspond to the Karanovo II horizon in Thrace.

9. According to Çiler Çilingiroğlu, this comprises of less than 1% (pers. comm.).

An intermediate stage on the way to the north is presented nevertheless by Ilıpınar VII–VI, which may be associated with Ulucak IVb–a. Indicators for this parallelisation are formed by the vertical handles below the rim, as they appear at both sites within this horizon (cf. Thissen 2001, fig. 61/1–2). It thereby becomes clear that a connection of the horizon Ovcharovo-Gorata/Karanovo II in the eastern Balkan region with Ulucak is hardly possible, as the pertinent chronological stretch of Ilıpınar Va and, most prominently, Ilıpınar Vb is not attested at Ulucak.

Some 40 km north of Izmir directly on the Aegean coast lies the site of Ege Gübre, already mentioned with respect to the circular buildings discovered there. The excavator Haluk Sağlamtimur supposes that the earliest settlement phase was Phase IV with only circular buildings (Sağlamtimur 2012, 197–198). In the later Neolithic Phase IIIa, the first buildings with corners developed, in parallel with a continuing tradition of circular houses. In these phases, the settlement was fortified with a surrounding wall further extended in the last Neolithic phase of IIIb (Sağlamtimur 2012, 197–198). As no traces of mudbrick were preserved above the stone foundations, Sağlamtimur assumes that the walls originally built upon them were constructed by means of posts, wattle, and clay. The structural finds of Ege Gübre appear to be entirely unique to the region.

The ceramic finds from Ege Gübre may be associated with the Late Neolithic-Early Chalcolithic material from Ulucak (Sağlamtimur 2007). These comprised of forms with long tubular lugs and with heavily stylised caprid or bovid heads applied to the surface (Sağlamtimur 2007, figs. 6b, 7). A large proportion of impression-adorned ware (Sağlamtimur 2007, figs. 8–9) and the red slip present upon many sherds are striking. If the appearance of impression-adorned ware and thickened rims together with the many fragments with red slips be chosen as criteria, then a parallelism may be drawn with Ulucak IVk–e until at the very least IVd–c.[10] Among the vessel feet from Ege Gübre, some very raised examples may be found (Sağlamtimur 2012, fig. 14) which appear throughout the entire eastern Balkan region with the Karanovo I horizon.

The cultural sequence of the site of Yeşilova on the western outskirts of Izmir would have begun somewhat earlier. The lowest bundle of levels, III, is to be dated to the Neolithic and Early Chalcolithic; this was composed, in turn, of a total of eight individual levels (Derin 2007). Stone foundations are attested, upon which rectangular, freestanding clay structures had been erected (Derin 2012, 179–180).

Within the earliest deposits of Yeşilova III8–6, dark and red burnished wares are present. By means of contrast, wares adorned with impressions do not yet occur. From Yeşilova III5–3 onwards, red burnished wares dominate the inventory (Derin 2007). It is only in the latest levels of Yeşilova III2–1 that impression-adorned wares appear, these permitting a parallelisation with the levels of Ulucak IVk–e onwards. The material of the levels Yeşilova III8–3 must accordingly be assigned an earlier relative date that must be considered parallel for at least a certain period of time with Ulucak V.

The material from Dedecik-Heybelitepe, a hill some 35 km south of Izmir on the western edge of the plains of Torbalı, is rather more to be associated with one of the Chalcolithic levels of Ulucak (Lichter, Meriç 2007. – Herling et al. 2008. – Lichter, Meriç 2012). The small-scale excavations did not reveal any evidence about the type of buildings at this site (Lichter, Meriç 2012, 134). The Early Chalcolithic is a relatively thin settlement level directly resting upon rock, and covered by a layer from the Late Chalcolithic and Early Bronze Age graves.

Published forms include bulbous pots with conical rims, vessels with funnelled edges, and certainly also bowls, together with S-profiled vessels (Herling et al. 2008, 21 and figs. 4–5). Diagnostic is the appearance of impression adornments and long perforated lugs (or false lugs), and also various vessel feet suggesting a parallelisation with the upper levels of Ulucak IV. Contact via the Aegean may be demonstrated by means of obsidian used for tools originating from the deposits of Adamas and Demenegaki on Melos (Lichter, Meriç 2012, 134).

That it was not only the seaway by means of the islands adjacent to Melos that was travelled in pursuit of obsidian is demonstrated by the comprehensive study of the obsidian tools of Çukuriçi Höyük near ancient Ephesus: while the vast majority of the artefacts can be ascribed to the two deposits on Melos, a few pieces may be associated with obsidian deposits within central Anatolia (Bergner, Horejs, Pernicka 2009). It has also recently become known that Çukuriçi Höyük is included among those sites within western Anatolia already providing evidence of a solid architecture of freestanding mudbrick structures built upon stone foundations during the Late Neolithic (Horejs 2008a. – Horejs 2008b. – Horejs 2012. – Horejs 2017). By means of the architecture, a parallelism between Çukuriçi Höyük VIII and Ulucak IV is presented.

10. The ^{14}C dates for Ege Gübre reflect a chronological placement between 6200–6000 calBC (Sağlamtimur 2007).

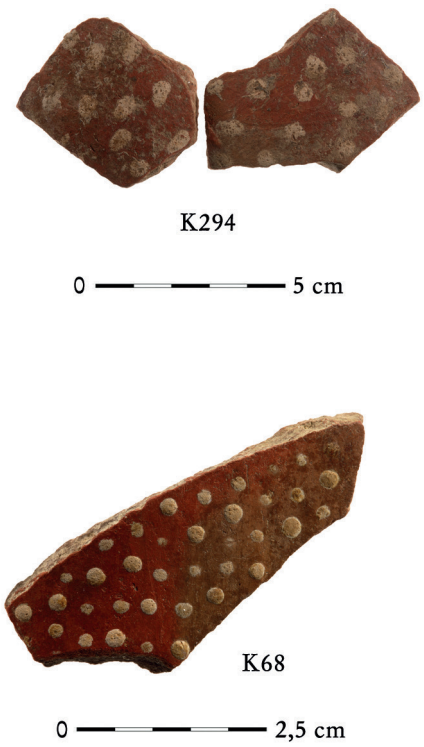


Fig. 54: Çukuriçi Höyük VIII. White-on-red painted ceramic fragments (B. Horejs).

The ceramic find material from Çukuriçi Höyük VIII includes red-slipped, globular pots with straight sided or S-profiled walls (Horejs 2008b, fig. 5). Long tubular lugs and impressed decorated sherds are also known. Horejs compares a globular pot with a vertical, narrowing mouth and four vertical lugs on the upper part with, among others, two small, globular pots from the upper levels of Ulucak IV which display a slightly offset rim (Horejs 2008a, fig. 14). Despite this, an Anatolian Late Neolithic-Early Chalcolithic date can be considered secure. Comparable forms from this chronological horizon within northern Bulgaria are generally known, for example from Koprivets (Krauss 2006, pl. 5/3), Polyanitsa-Platoto (Todorova, Vaysov 1993, fig. 53/6), and Dzhulyunitsa I (Elenski 2006, fig. 7/3). However, the low-set realisation of the lugs (consistently below the broadest extension of the vessel's midriff) is conspicuous on the vessels from northern Bulgaria, while the pots of the Izmir region have their lug handles on the upper part of the vessel body. This may well reflect local idiosyncrasies. The long-lived and widely disseminated nature of these forms is evidenced by very similar examples from Starčevo (Benac 1979, pl. XVII/2–3.4), Golyamo Delchevo I (Todorova et al. 1975, pl. 4/5), Drinovo (Todorova, Vaysov 1993, fig. 117/10), Samovodene A (Stanev 2002a, fig. 138 left), and Yabalkovo (Leshtakov et al. 2007, fig. 10/9); moreover, this form also remains present in the material from Ovcharovo-Gorata.

It is a fortunate situation at Çukuriçi Höyük VIII that two red-slipped ceramic fragments with white speckled painting (Fig. 54) were found together with material generally comparable to the earliest Neolithic in the Balkan region. This specific form of vessel adornment may be evidenced throughout the entire Balkan region up to Transylvania. White-on-red speckled painting may, for example, be found in the lowest levels of Aşağı Pınar,[11] at Kardzhali (Nikolov 2002a, pl. 134/2), Dzhulyunitsa II (Elenski 2006, fig. 9/6), Grivac II (Bogdanović 2008, pls. 5.31–5.35), Donja Branjevina II (Benac 1979, pl. XXXVIII/1–3) and in the earliest material of the Gura Baciului (Lazarovici, Maxim 1995, colour pl. I. – Ciută 2005, pl. XVI). What is striking is the strong concentration of sites with white-on-red painted pottery in the regions stretching to the Danube, and the scanty distribution in the areas north of the Danube (Fig. 55). The earliest find sequence documented at Çukuriçi Höyük probably attests therefore to the chronological horizon at the beginning of the white painting in the Balkans, being at the turn of the 7th to 6th millennium. Extensive white painting prior to the speckled painting is only evidenced within North Macedonia and Southwest Bulgaria. According to Milutin Garašanin, speckled paint there is only characteristic for the level of Anzabegovo-Vršnik Ic (Garašanin 1998, fig. 5/a, e) which, in turn, may easily be parallelised with the aforementioned sites in the eastern and northern Balkans.

3.2. Maritime Networks of the Aegean

Generally, the comparison of the Balkan Neolithic with western Anatolia presents a clear cultural gradient. While, in western Anatolia, solid mudbrick structures with stone foundations may be found, the edifices of the Balkan Neolithic are far more simply built. In comparison to the material culture of western Anatolia, that of the Balkan region also appears to be far more reduced in form. In addition, vessel ceramics are of markedly better quality and variety in western Anatolia. An understanding of the development of vessel ceramics in western Anatolia nevertheless permits the clear identification of the moment in which the drive for neolithisation spread northwards. This occurred in the period

11. Finds from the earlier Levels 7–8 in the collection of the University of Istanbul. I am grateful to Mehmet Özdoğan for his enduring hospitality and the numerous opportunities to work within the institute's collection connected to this.

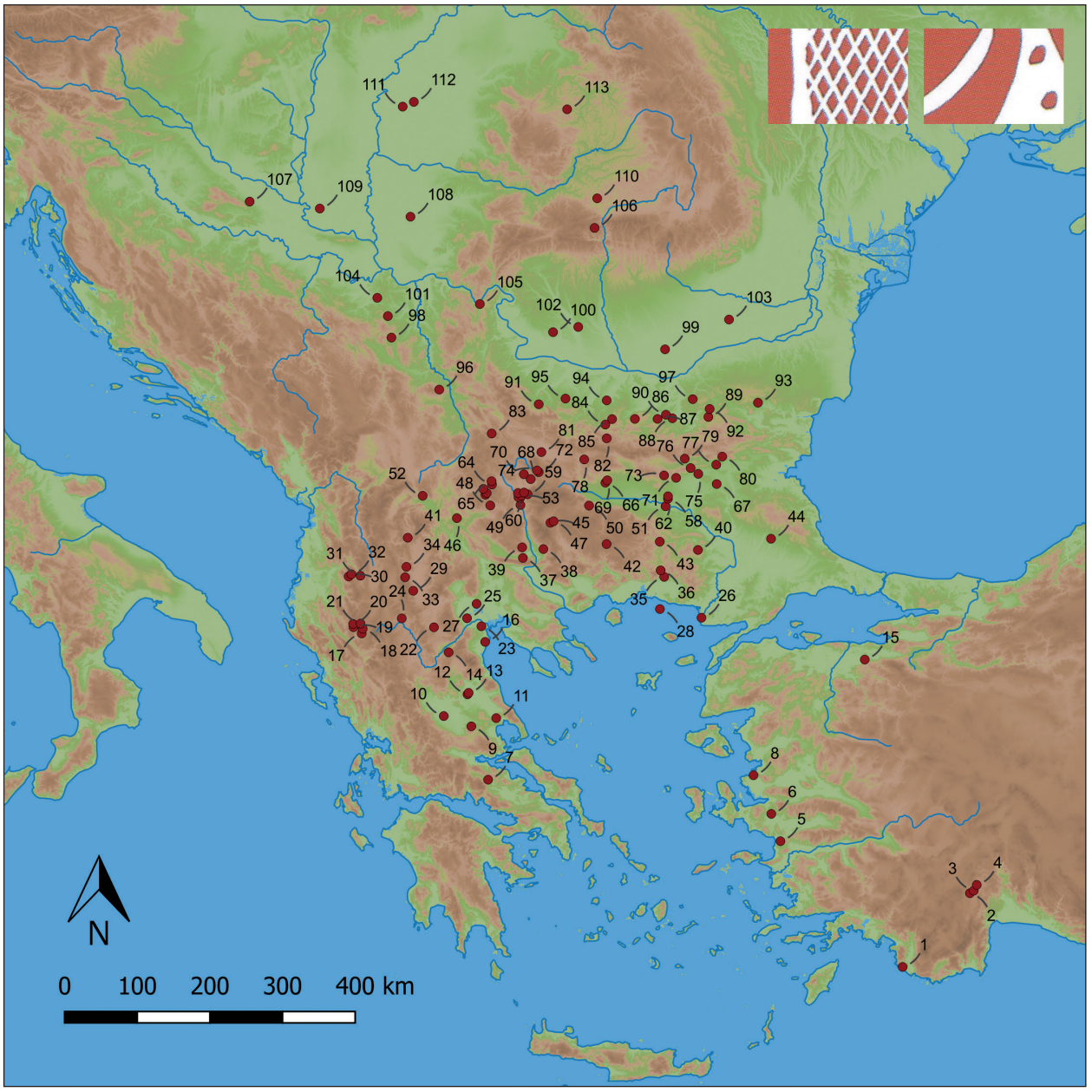


Fig. 55: Distribution of white-on-red painted Early Neolithic pottery in the Balkan-Carpathian region and Anatolian Chalcolithic. Based on a map for the western Bulgarian sites by Petru Ciocani (Ciocani 2012, fig. 2) and a database from Canay Alpagut. – 1. Girmeler Cave. – 2. Bademağacı. – 3. Höyücek. – 4. Hacılar. – 5. Çukuriçi Höyük. – 6. Ulucak. – 7. Elateia. – 8. Ege Gübre. – 9. Achilleion. – 10. Prodromos. – 11. Sesklo. – 12. Argissa. – 13. Otzaki. – 14. Servia. – 15. Aktopraklık. – 16. Revenia Korinos. – 17. Barç. – 18. Tren. – 19. Vashtëmi. – 20. Sovjan. – 21. Podgorie. – 22. Mavropigi-Filotsairi. – 23. Paliambela-Kolindros. – 24. Velushina. – 25. Nea Nikomedeia. – 26. Hoca Çeşme. – 27. Giannitsa B. – 28. Uğurlu. – 29. Veluška Tumba. – 30. Rashtan. – 31. Zla Strana. – 32. Rajcë. – 33. Mogila. – 34. Vrbjanska Čuka. – 35. Chernichevo. – 36. Krumovgrad. – 37. Ilindentsi. – 38. Kovachevo. – 39. Brezhani. – 40. Tsiganova Mogila. – 41. Cerje. – 42. Rakitovo. – 43. Kardzhali. – 44. Aşağı Pınar. – 45. Dobrinishte. – 46. Anzabegovo. – 47. Eleshnitsa. – 48. Drenkovo. – 49. Balgarchevo. – 50. Kapitan Dimitrievo. – 51. Yabalkovo. – 52. Rug Bair. – 53. Mursalevo. – 54. Kamenik. – 55. Bersin. – 56. Dupnitsa. – 57. Nevestino. – 58. Kovach. – 59. Sapareva Banya. – 60. Dolistovo. – 61. Kraynitsi. – 62. Simeonovgrad. – 63. Shishkovtsi. – 64. Negovantsi. – 65. Priboy. – 66. Dabene. – 67. Glufishevo. – 68. Pernik. – 69. Karlovo. – 70. Galabnik. – 71. Starozagorski bani. – 72. Buhovo. – 73. Azmak. – 74. Kremikovtsi. – 75. Stara Zagora. – 76. Karanovo. – 77. Knyazhevo. – 78. Chavdar. – 79. Kazanlak. – 80. Kliselika. – 81. Slatina-Sofia. – 82. Muldava. – 83. Vaksevo. – 84. Tabashkata Cave. – 85. Devetaki Cave. – 86. Dzhulyunitsa. – 87. Samovodene. – 88. Hotnitsa. – 89. Svetlen. – 90. Orlovets. – 91. Gradeshnitsa. – 92. Pomoshtitsa. – 93. Kliment. – 94. Milkovitsa. – 95. Ohoden. – 96. Porodin. – 97. Koprivets. – 98. Grivac. – 99. Măgura Buduiasca. – 100. Oltenia. – 101. Banya. – 102. Cîrcea. – 103. Malak Preslavets. – 104. Starčevo. – 105. Dubova-Cuina Turcului. – 106. Valea Rii. – 107. Körös. – 108. Foeni Sălaş. – 109. Donja Branjevina. – 110. Ocna Sibiului. – 111. Szarvas-Egyházföld. – 112. Endrőd. – 113. Gura Baciului (R. Krauß).

of Ulucak Va and Çukuriçi Höyük VIII, during which three elements serving as innovations within the ceramic trajectory are perceptible and which are also characteristic of the earliest pottery within the Balkan region: firstly, impresso decoration; secondly, depictions of artiodactyls applied in relief on the vessel surface; and thirdly and finally, white-on-red painted pottery. The painting of white is certainly somewhat earlier in date within western Anatolia, but first appears frequently at this time. The tradition of red slipping pottery (a further element appearing with the neolithisation in the Balkan region) is also older.

An essential difference may be seen in the western Anatolian Neolithic's clear connection with the sea, while the spread into the Balkan-Carpathian region must have occurred overland. While the rivers there must certainly have played a vital role as routes of communication, this connection to a river valley is hardly comparable with marine contacts over the open sea, even when boat travel must have played a vital role in the navigation of stretches of rivers. The association of agriculture and husbandry with sea voyage would seem initially paradoxical, inasmuch as the Neolithic economic mode is predicated upon a sedentary lifestyle while boat travel, in contrast, brings with it the mobility of human societies. Whether, in fact, this comprised groups with differing economic forms who merely cooperated with one another on grounds of commerce cannot be determined on the strength of the present state of research. The very specific natural environment of western Anatolia with the Aegean Islands spread out before it certainly presents the preconditions for a complex maritime-based system of exchange much in the manner of that described, for example, by Bronisław Malinowski in respect of the inhabitants of the archipelagic world of Melanesian New Guinea (Malinowski 1979). With the chosen title of his work *Argonauts of the Western Pacific*, Malinowski consciously harks back to ancient mythology, itself embedded in the Aegean-Pontic coastal region. Among the material goods archaeologically tangible today, obsidian and the shells of the spondylus mussel may well have functioned within the Neolithic Aegean as wares within an exchange system much akin to that at the beginning of the 20th century in Melanesian New Guinea. In addition to the trade in goods, there would have been immaterial and archaeologically intangible social, economic, and religious aspects, these possessing significance within the aforementioned ethnologically observable system of exchange (Malinowski 1979, 115–141). Such complex relationships should also be presupposed for the prehistoric societies within the Aegean region. The comparable style of ceramic adornment within the South-eastern European-Anatolian Neolithic could be evaluated as rendering a hint as to these relations (cf. Brami, Heyd 2011, 183–184). The Troad, the islands of the Sporades, and the coastal region of Turkish and Greek Thrace would certainly also have participated in the maritime exchange network of the north-western Anatolian and Aegean Neolithic.

3.3. The Troad and its Adjacent Islands

Neolithic find collections are known from Coşkuntepe in the Troad (Seeher 1990. – Takaoğlu 2005). Firstly, the many blades of Melian obsidian also found here indicate that this region was also involved in the maritime networks (Takaoğlu, Özdemir 2013, fig. 8). The ceramic finds have been connected by Jürgen Seeher to Levels IX–VI at Hacılar (Seeher 1990, 11–14). These consist of various pots with a red slip, with conical or slightly S-shaped protruding lips, partially with thickened rims and long tubular lugs (Seeher 1990, fig. 1). The pottery is solely tempered by minerals. While Seeher detects here a marked affinity with forms from south-western Anatolia and strictly delineates these against the Fikirtepe group in the north, similarities in form may be noted with the pots from Menteşe 3 (cf. Roodenberg et al. 2003, figs. 12/1–4; 13–14), which by no means contradict a parallelisation with the cultural sequence in the Anatolian maritime region, but rather confirm this as such. A connection to Fikirtepe is also indicated by a very small fragment of a box-like vessel from Coşkuntepe (Seeher 1990, fig. 1/22). These accordingly indicate the ties with the inland which might be expected and, more specifically, with the southern Marmara coast. With recourse to the Izmir region, a parallelism may be posited between the surface finds from Coşkuntepe and Ulucak V by means of the red-slipped ceramics and some long, drawn-out tubular lugs (Takaoğlu, Özdemir 2013, figs. 3–4).

Similar material was discovered from the excavations at the village of Uğurlu in the western portion of the island of Gökçeada/Imbros (Erdoğu 2003, 16–17. – Erdoğu 2013). These fragments are also coated with a red and, indeed, also black clay slip. Short and extremely long tubular lugs and a few rims with projecting lips are highly reminiscent of the Early Chalcolithic finds from the Izmir region (Erdoğu 2003, fig. 4), although no black burnished wares are preserved from the aforementioned area.[12] This specific treatment of the surface may more reasonably be associated with the earlier levels of Hoca Çeşme. Nevertheless, a link with central western Anatolia is evident through architecture,

12. The present author is grateful to Çiler Çilingiroğlu for this information.

with stone foundations of free-standing buildings having also been uncovered in Uğurlu (Erdoğu 2013, 3–5 and figs. 4–5). Obsidian tools (Erdoğu 2013, fig. 46), spondylus jewellery (Erdoğu 2013, fig. 24), impresso pottery (Erdoğu 2013, fig. 37), and individual sherds of red-slipped pottery with characteristic pierced lugs and plastic moulding in the manner of animal horns (Erdoğu 2013, fig. 34) can also be understood to be elements of the maritime network which roughly connects Uğurlu V with Ulucak V. Moreover, this site displays a very clear connection with the cultural sphere north of the Aegean during Phase III. Elements of the developed Early Neolithic of the Balkans are round vessel lids with offset brim (Erdoğu 2013, fig. 40 below left; fig. 41/4) and vessels with handles and mushroom-shaped attachments (Erdoğu 2013, fig. 41/5–6) which find their best parallels in material from Karanovo II and III (Hiller, Nikolov 1997, pl. 59/10. – Nikolov 1998, pl. 7/22–26). The relationships in the north may possibly have begun earlier, if two fragments of painted pottery from Uğurlu IV are considered (Erdoğu 2013, fig. 39) which might serve as a bridge between Çukuriçi VIII and the earliest ceramic horizon in South-eastern Europe. These white-on-red painted sherds may effortlessly be associated with similarly decorated vessels from Karanovo I (Hiller, Nikolov 1997, pl. 66) and some fragments from Koprivets (Krauss 2006, pl. 2/13–14, 20). A number of long blades made from so-called 'Balkan' flint (see Chapter 8.10 with the distribution map Fig. 191) may also be evidenced in the north (Erdoğu 2013, figs. 44–45). A clear shift in cultural connections may thus be witnessed over the course of the Neolithic upon the outlying northern island of Imbros. While indications of maritime networks with the Aegean archipelago and with central western Anatolia are still evident within the material of phases Uğurlu V and IV, the later material of Phase III overwhelmingly demonstrates clear contacts with the developed Balkan Early Neolithic. The absence of black burnished pottery distinguishes the sites in the Troad from those of the Early Neolithic within the Marmara region. In this respect, a connection to the maritime network of the Aegean of this region in contrast to an overland communication with the Marmara region is once again proven (cf. Brami, Heyd 2011, 178–179).

3.4. The Maritsa River Estuary

As a result of the positioning of the site of Hoca Çeşme at the estuary of the Maritsa (Evros/Meriç) with the Aegean, the Balkan connections of the find material are invariably emphasised by various commentators. The Maritsa springs from the Rila Mountains in western Bulgaria and flows through the entire Thracian Plain. Among the four levels of settlement deposits, Herrmann Parzinger identified parallels mostly between Level II there and Karanovo I on the basis of the red-slipped pottery sherds (cf. Özdoğan 1999, figs. 39–40). Following on from this analysis, the lower levels of Hoca Çeşme III and IV must therefore be earlier in date.[13] As finds of this manner are as yet completely lacking within the north of Thrace, these can only be compared with material from those Karanovo I period sites within northern Bulgaria, the Struma Valley, and the central Balkans. S-profiled or softly rounded biconic forms on simply flattened feet with tubular lugs prevail (Özdoğan 1998, figs. 4–8). In terms of adornment, plastic applications and, more seldom, fine incisions and impressions are evidenced, while conversely, there are no examples of vessel painting. A general similarity to the pottery from Koprivets might be detected, but the carinated forms are absent. Currently unpublished but demonstrably present are a few sherds of impression-adorned ceramics from Hoca Çeşme II, which are also typical among the material from Koprivets (Karul, Bertram 2005, 125). The characteristic low-set biconic profile from Hoca Çeşme may first be observed in the material from the lower levels of Kovachevo (Pernitcheva 1990, pl. VIII/9. – Lichardus-Itten et al. 2002b, pls. 15/6; 18/1–3) and possibly also at Kraynitsi (Tchohadjiev, Bakamska 1990, pls. 10/4; 12/1). The material ascribed to Hoca Çeşme I comes from various pits which were additionally heavily damaged by modern surface interventions. A portion of the finds may be associated with Karanovo III to IV and, in turn, Toptepe (Özdoğan 1998, 448–449. – Karul, Bertram 2005, 125–126. – Parzinger 2005, 45–46). Fragments of pattern burnished ware (Özdoğan 2013, figs. 85–86) may be ascribed to the Anatolian-Aegean Late Chalcolithic (Beşik-Sivritepe/Kumtepe A) (cf. Gabriel 2006).

At the beginning of its development, this site also demonstrates evident connections to the maritime networks of the Aegean and western Anatolia. Clear indications of this are provided by the solid architecture within Hoca Çeşme IV (Özdoğan 2013, figs. 62–66); as yet, this appears to be the northernmost site with Neolithic stone architecture. Over the course of the development at the site, this mode of construction is not only increasingly marginalised, but also the connections with the Balkan sphere are strengthened. In addition to the parallels in the ceramic trajectories,

13. At this juncture, the present author must also thank Mehmet Özdoğan for the opportunity to examine a portion of the finds at the University of Istanbul.

the so-called 'Balkan' flint becomes significant (Özdoğan 2013, fig. 97) which might be assumed to indicate communication with the north.

To conclude the discussion of the region of the north-eastern Aegean, the material from the site of Makri must be considered. The Neolithic settlement lies west of the Maritsa estuary, within the Greek portion of southern Thrace. The excavator Nikolaos Evstratiou dates the lowest level of Makri I to the general period prior to the horizon of Sitagroi I (Evstratiou 1996). Jan Lichardus more specifically associates Makri I with Karanovo II (Lichardus, Iliev, Christov 2002, 346), an ascription which would be difficult to assess due to the presently schematic publication of the vessel types (cf. Evstratiou 1996, 578, fig. 1). Makri II should date to the Late Neolithic, which appears relatively consequent in light of the many carinated bowls (Evstratiou 1996, 579, fig. 2). These forms may be generally associated already with Karanovo IV.

Should the drive behind the neolithisation of the Balkan region have arrived overland, then the area of the Marmara Sea would have assumed particular significance within this transmission over the Dardanelles or the Bosporus. The comparatively isolated development of the Neolithic within this sphere presently contradicts somewhat such an intensive interaction. While parallels to the cultural trajectory of Pisidia and, in part, with that within central western Anatolia might often be noted, these developments hardly seem to have travelled northwards; rather, the Neolithic of the Marmara region serves as something of a barrier between the ceramic tradition of the Late Neolithic-Early Chalcolithic in western Anatolia and the earliest pottery within the Balkan sphere.

3.5. The Istanbul Region

The sites of Fikirtepe and Pendik on the western shore of the Marmara Sea number among the longest known Neolithic settlements in Turkey (Janse 1925. – Bittel 1969. – Özdoğan 1983. – Özdoğan 1999, 207). Both sites lie today within the Asian part of the metropolis of Istanbul. By means of the finds of both sites, Özdoğan defined a Fikirtepe culture encompassing large portions of the cultural development of the southern Marmara region (Özdoğan 1983. – Özdoğan 1999, 213–214); according to this, the so-called Archaic Fikirtepe reflects the earliest ceramic culture in the region. Özdoğan and Ivan Gatsov claim to be able to evidence an even earlier Aceramic Neolithic at Çalca and Musluçeşme (Özdoğan, Gatsov 1998). Brami and Heyd have nevertheless quite rightly highlighted the heterogeneous character of the stone artefacts from both sites (Brami, Heyd 2011, 190). Characteristic forms of the Neolithic in its earliest expression at Archaic Fikirtepe are spherical bowls with straight or lightly bent mouth and globular pots with internal interstice at the rim (Özdoğan 1999, fig. 5, above). Following this is the so-called Classical Fikirtepe, of which S-profiled forms and box-shaped vessels with right-angled corners are characteristic (Özdoğan 1999, fig. 5, below). The pottery is exclusively monochrome-slipped, and some vessels display scratched linear patterns of hatched triangles, rhomboids, or rectangles. The late phase of the cultural group, the so-called Developed Fikirtepe is ultimately not attested at either Fikirtepe or, indeed, Pendik. In their stead, Özdoğan names finds from Ilıpınar VIII, Yarımburgaz 4, and also some Chalcolithic material from Demircihüyük (Özdoğan 1999, 213). The material from Fikirtepe and Pendik long stood isolated as it can only be very generally typologically associated with the Balkan Early Neolithic; as a whole, it is potentially even older than the earliest Neolithic settlement in South-eastern Europe.

Spectacular new finds have emerged from the civic district of Yenikapı in the centre of Istanbul, where portions of a Neolithic settlement and an adjoining graveyard were unearthed adjacent to a construction site for a new underground train line under the Bosporus (Kiziltan, Polat 2013). Here, stone foundations could also be evidenced for the Marmara region for the first time, these serving to elevate somewhat the bases upon which the post and daub buildings were then constructed above the damp shoreline of the Bosporus. This light shoring up of the building foundations can nevertheless hardly be compared to the well-set stone fundaments of the settlements in the region of Izmir. The damp soil conditions at Yenikapı contributed to an exemplary preservation of the wattle-and-post construction of the walls (Kiziltan, Polat 2013, 16).

The ceramic find material from Yenikapı throughout its duration may primarily be associated with Archaic and Classical Fikirtepe and thereafter with Yarımburgaz 5 to 2 (Kiziltan, Polat 2013, figs. 23–30). Also striking here is the great number of finds fashioned from organic material otherwise lacking within the Neolithic find spectrum of the region.

The burial ground harboured a further surprise; in addition to the usual crouched burials already known from the Marmara region, for which, here portions of the wooden coffins are also preserved (Kiziltan, Polat 2013, figs. 38–44), individual cremation burials in vessels also occurred. The cremation of the bodies evidently took place on site, as the archaeological exposure of an extended area with traces of burning and widely strewn cremation remains demonstrated (Kiziltan, Polat 2013, figs. 49–52).

3.6. The Northern Edge of the Marmara Sea

Of super-regional significance is the find material from the Yarımburgaz Cave, 22 km west of Istanbul (Özdoğan 2013, 176–178). The site is important as a source for settlement archaeology, despite not representing any regular settlement location. Sunken into the uppermost levels of the cave site of Yarımburgaz (Kansu 1972. – Özdoğan, Koyunlu 1986) were unstratified pits (Yarımburgaz 0), within which typical Toptepe material was found together with a vessel with tap-like handles which existed in Karanovo III (Özdoğan, Miyake, Özbaşaran Dede 1991, fig. 13). It is thus probable that Toptepe must be considered as being at least temporarily parallel to Karanovo III. Until recently, specific Toptepe pottery remained astonishingly unknown within Bulgaria. Now two Toptepe jugs are published from the Varna Museum which probably originate from the vicinity of Primorsko some kilometres south of Burgas (Slavchev 2008, fig. 5). Larger quantities of Toptepe material originate from the settlement at Lyubimets presently being excavated by Vassil Nikolov.[14] The present author was able to examine a further Toptepe vessel in the Museum of Sozopol hailing from the excavations at Budzaka near Sozopol led by Petar Leshtakov. A scattering of Toptepe ceramics along the western bank of the Black Sea may hence be tendentially sketched, further contours of which will certainly be gained by means of future research within the Bulgarian Strandzha region and in the hinterland of Burgas (Fig. 56). Although the state of research in this region is more than scanty, Toptepe pottery does not seem to have been dispersed far inland. Certainly, no comparable forms have been brought to light during the intensive research within the lower Tundzha conducted by colleagues from Saarbrücken (Project Drama) (Lichardus et al. 2000b).

If Toptepe were now to be parallelised with Karanovo III, then the earlier levels from Yarımburgaz Cave would be of importance to comparisons with Ovcharovo-Gorata or Karanovo II. The deposits span from the Palaeolithic until the Byzantine period, and are very disturbed from interventions within the cave sediment during the later periods of occupation (Özdoğan, Miyake, Özbaşaran Dede 1991, 67–68). The lowest settlement deposits of Level 5 only produced completely shattered material. Red- (34%) and dark- (38%) slipped wares with sand and fine pebble temper predominate. Clearly recognisable forms cannot be discerned due to the heavy fragmentation. A sherd with incised and engraved decoration and a fragment with lug handles are preserved (Özdoğan, Miyake, Özbaşaran Dede 1991, figs. 4/2–4). Regardless, the scanty material basis hardly permits any secure parallelisation with other sites. That this might pertain to Pre-Karanovo-I-period material (Parzinger 2005, 43) can only be supported by it being stratigraphically overlaid by levels, whose finds can merely be indirectly associated with Karanovo I. The pertinent pottery from Yarımburgaz 4 displays softly profiled forms. Semi-spherical bowls and tall vessels with a globular lower body and a conical narrowing neck (Özdoğan, Miyake, Özbaşaran Dede 1991, figs. 5–6). Not only are there no good comparanda for these forms in the northern regions, but also the highly characteristic incised decoration of serrated and stepped bands, hooked meanders and deep, parallel incised lines (Özdoğan 2013, figs. 46–48) are entirely unique from a South-eastern European perspective. This specific type of ceramic adornment is most reminiscent of the decorated patterns of LBK *Notenkopf* ('note head' as in musical notes) decorations, a comparison made time and again by Özdoğan himself (most recently Özdoğan 2013, 178). This horizon is not chronologically fixed but is, nevertheless, certainly older than the *Notenkopf* pottery within the Danubian region and it remains unclear whether this pottery is slightly older or younger than that found at Karanovo I. Certain fragments of triangular miniature tables with checkerboard impresso decoration can be connected with Karanovo I or also with Karanovo II. Some deep-set, slightly biconic bowls from Yarımburgaz 3 with circumferential incised triangular patterns on the shoulder may potentially be associated with forms from Kovachevo (Lichardus, Iliev, Christov 2002, pl. 18/1–4, 6, 10). Interestingly, however, the bowls from Kovachevo are not adorned with circumferential triangular motifs by means of an incision technique, but are instead painted. It is only with Yarımburgaz 3 that a weak indication is provided that the earlier levels must, in fact, be dated prior to the period of Karanovo I. The actual date of the levels of Yarımburgaz 5–4 is difficult to state with a view northwards, as this evidently pertains to material considerably older than the earliest pottery presently known from the Balkans. Should the connection between Yarımburgaz 3 and Kovachevo Ia be accepted, then the discovery of vessel fragments recalling *Notenkopf* pottery and early Toptepe forms in the same level would be quite astonishing (Özdoğan, Miyake, Özbaşaran Dede 1991, fig. 8). The alleged resemblance with the classical *Notenkopf* pottery as postulated by Özdoğan (Özdoğan 2013, 178) seems purely coincidental on grounds of the vast distance, especially considering that the entire space between the northern shore of the Sea of Marmara and Romanian Moldavia has not produced any ceramics bearing even passing resemblances. Even assuming

14. The current excavations have as yet only been reported in the annual transactions of the Archaeological Institute at Sofia (Nikolov, Nehrizov, Tsvetkova 2008).

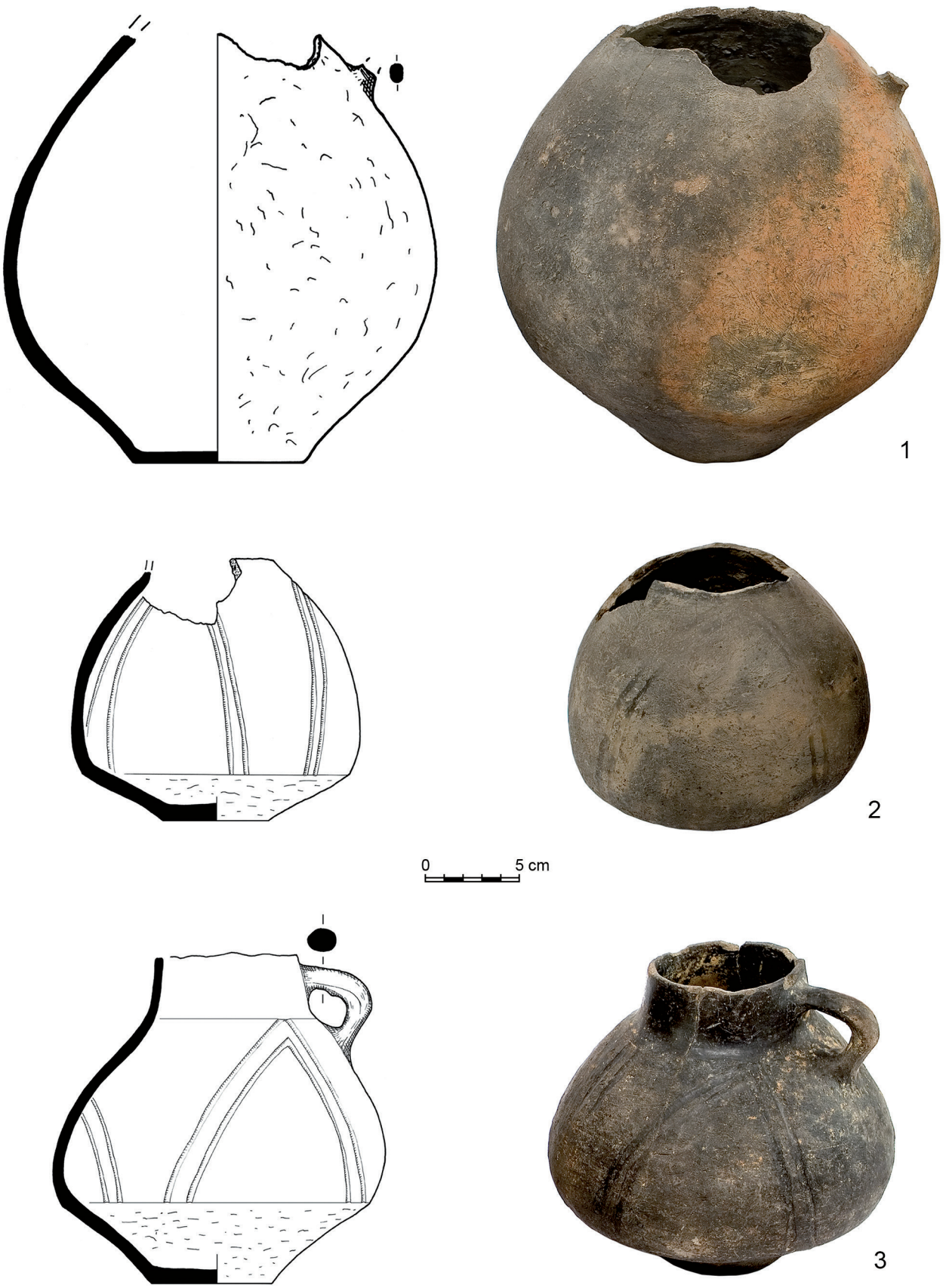


Fig. 56: Primorsko. Ceramic of the Toptepe style (after Dimitrov, Draganov, Prahov 2020, fig. 36).

a coastline for the Black Sea radically different from that of the present day hardly explains the overwhelming lack of finds. From Romanian Moldavia, in particular, some indications suggest a chronological ascription of the *Notenkopf* pottery only to after Criş III, and thereby to the horizon of Ovcharovo-Gorata, as will be later outlined. As concerns the low-set, jug-like vessels with falling shoulders (Özdoğan, Miyake, Özbaşaran Dede 1991, fig. 8/3–4), these could well have developed from the globular forms with vertical necks from Yarımburgaz 4 (Özdoğan, Miyake, Özbaşaran Dede 1991, fig. 6/2–5), and, in turn, might be seen as prototypes of the later Toptepe jugs. As to how the material from Yarımburgaz 2 should be evaluated remains largely unclear. Some of the softly profiled forms, partially with slightly out-turned lips, are generally reminiscent of the Balkan Early Neolithic (Özdoğan, Miyake, Özbaşaran Dede 1991, fig. 10). Some fragments with incised decoration and fingernail impressions also fit well with it (Özdoğan, Miyake, Özbaşaran Dede 1991, fig. 9/6–9, 16–17). Only a completely intact cup with a gentle S-profile and parallel incisions on its lower portion does not fit in. With its untypically placed handle on the side of the body, the form is reminiscent of characteristic cups from the Coţofeni-Cernavodă III Complex (and thereby markedly later finds).[15]

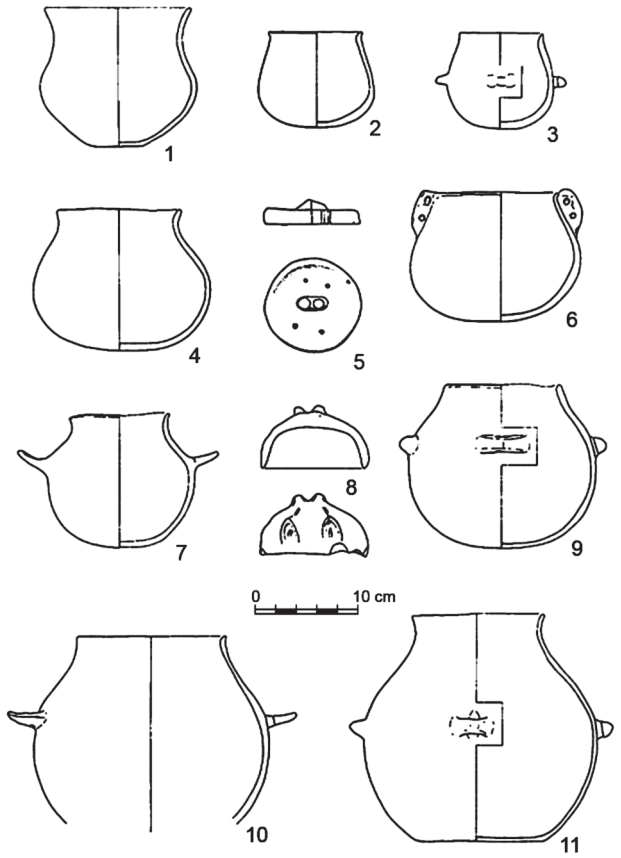


Fig. 57: Ilıpınar IX. Vessel shapes (after Thissen 1995, fig. 2).

3.7. The Southern Edge of the Marmara Sea

Three Neolithic burials unearthed in 2006 at Barcın Höyük south of Lake İznik might be ascribed to Classical Fikirtepe (Roodenberg, van As, Alpaslan Roodenberg 2008). These comprise of the grave of a young adult, an older woman, and a further woman who was evidently interred secondarily. There are many fragments of box-like vessels and also pots and bowls with S-profiled or straight walls which might be associated with the finds from Fikirtepe and Pendik (cf. Roodenberg, van As, Alpaslan Roodenberg 2008, figs. 6–7). Two ^{14}C dates from the graves point towards the second half of the 7th millennium (Roodenberg, van As, Alpaslan Roodenberg 2008, 62), the period either immediately on the cusp of the neolithisation of the Balkan region, or right at its beginning.

The architecture of the settlement already stands in contrast to the Aegean coastal region from its very outset. Preserved from Barcın Höyük are only post and clay buildings without discernible stone foundations (Gerritsen, Özbal, Thissen 2013, 6–7, 9). Two essential elements might already be recognised there that do not occur in the Aegean sphere: inhumations in a purposefully constructed burial ground, and post and clay architecture.

Nevertheless, it was only with the excavations on the mound of Ilıpınar on the western bank of Lake İznik that the key to understanding the cultural trajectory in the Marmara region was provided; its long stratigraphic sequence permits the subdivision into a relative chronology of the region's many extremely short-lived settlements (Roodenberg 1995. – Roodenberg, Thissen 2001. – Roodenberg, Alpaslan Roodenberg 2008). The sequence of forms at Ilıpınar is relevant even to the regions north of the Marmara Sea as it also somewhat corrects the articulation of levels at Yarımburgaz Cave.[16] The levels of Ilıpınar were labelled with Roman numerals, of which Strata X–V pertain to the

15. Cf. Morintz, Roman 1968, figs. 37, 39/14–16. – Dzhambazov, Katincharov 1974, figs. 12–14a. – Roman 1977, pls. 46/3; 47/1. The nearest site with such pottery is Drama-Merdzhumekya in the Strandzha region (Lichardus, Ilijev 2001, pls. 8/8; 12).

16. The present author must extend his thanks once more to Mehmet Özdoğan for the opportunity to study a representative selection of the finds at the University of Istanbul.

Neolithic and Chalcolithic deposits. The lowest stratum of Ilıpınar (X) provides evidence of globular forms with bending lips (Thissen 1995, 109–110. – Van As, Wijnen 1995, 94–95. –Thissen 2001, figs. 4–12). The surface of the vessels is of a similar smoothness inside and out. Essentially, a grey-brown and a light brown ware may be discerned respectively. The fabric of the sherds is heavily organically tempered, although fired remarkably hard. Pointed pierced knobs are found on the handles, frequently upturned. Appearing as variants of these are flat, discoid protrusions with a perforation in their centre. These are also upturned (Thissen 1995, fig. 1. – Thissen 2001, figs. 4–5). Generally, Ilıpınar X may be associated with the material of Fikirtepe and Pendik, by means of which it becomes clear that this pertains to a level still preceding the earliest Balkan Neolithic. A continuation of the aforementioned forms may be sketched for Ilıpınar IX (Thissen 1995, 110–111. – Van As, Wijnen 1995, 95. – Thissen 2001, figs. 21–22). Moreover, vessels with a neck structure markedly offset from the shoulder with matching lids are now attested (Fig. 57). Most significant are a few fragments of previously unknown impression-adorned ceramics. These comprise crude incisions (clearly performed with a fingernail) covering the entire vessel body with the exception of the lips. From Ilıpınar IX onwards, there is no further evidence of organically tempered sherds. The ceramic spectrum then consists exclusively of minerally tempered fabrics. A marked increase in impression-adorned pottery may be noted in Ilıpınar VIII (Thissen 2008, figs. 26–27). As before, the globular forms with bended rims and vessels with cylindrical necks predominate (Thissen 1995, 111, fig. 3. – Van As, Wijnen 1995, 95). It is first in the material from Ilıpınar VIII that all of the elements characteristic of the earliest ceramic complexes in the Balkan region might be encountered. The older material from Koprivets and the forms from Polyanitsa-Platoto might be generally comparable within northern Bulgaria. Also appearing in this phase is characteristic incised Yarımburgaz pottery, as yet largely unknown within northern Bulgaria (Thissen 2001, figs. 30/4; 45–46). Altogether, the spectrum of the sites in the Marmara region is much richer in types and variants, so that there is a sense that only a few types of this comprehensive inventory made their way north. An adornment specific to Yarımburgaz may only be found on the small three- and four-footed miniature tables (so called altars), while this decoration remains an exception on vessel pottery. For Ilıpınar VII, knobs just beneath the vessel rim are not characteristic among narrow-mouthed forms (Thissen 2001, fig. 61/3–5). As before, pointed pierced lugs are attested, although hardly any of these are upturned. Vertical pierced lugs and handles are also attested, among these pointed, elbow-like exemplars. Typical for

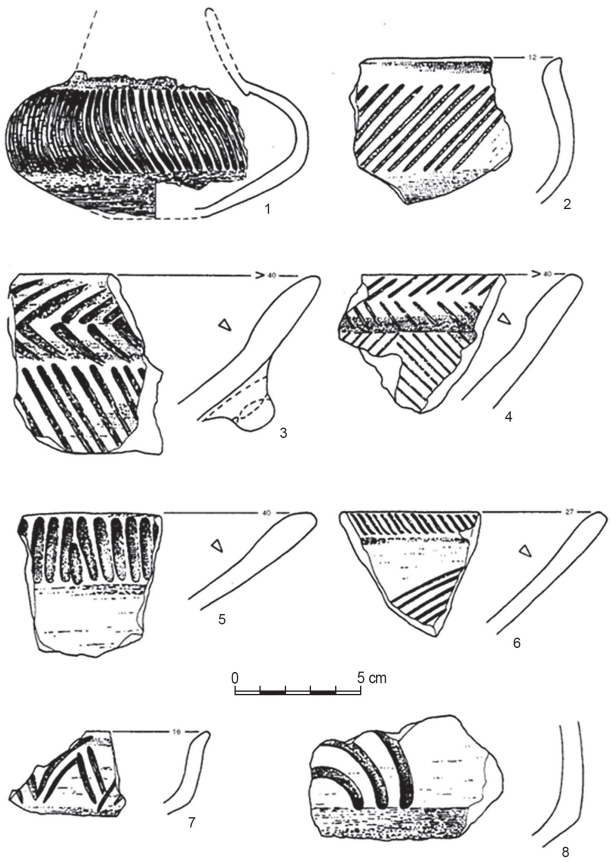


Fig. 58: Ilıpınar Va. Black burnished and channelled sherds (after Özdoğan, Başgelen 1999, fig. 8).

this horizon are pointed sharp-sided impressions in the highly compacted surface (Thissen 2001, fig. 65/6). In Ilıpınar VI, a red slip characteristic of the Balkan Early Neolithic occurs. Additionally, a broad incision decoration is typical for Ilıpınar VI, the lines of which are themselves burnished (Thissen 2001, fig. 64/2–5). Concentric bows set above the break on the vessel's body predominate as motifs (e.g. Thissen 2001, fig. 62/15). Small knobs may now be found directly on the vessel rim (Van As, Jacobs, Wijnen 2001, fig. 7/6–9). The forms from Ilıpınar Va largely correspond to those of Layer VI. Nevertheless, globular bowls with narrow mouths or cylindrical necks now possess strap handles applied either to the body or to the shoulder (Thissen 2001, figs. 72/4; 73/5; 74/1, 5). The burnished incisions with occasional bow motifs still remain among the fine ceramics (Thissen 2001, figs. 70/2; 71/2–3; 76/3; 77/5). With Ilıpınar Vb, a stage reflecting the Bulgarian-developed Neolithic is finally reached.[17] The

17. According to the absolute dates available, this roughly corresponds to the mid-6th millennium calBC (Thissen 2008, fig. 10).



Fig. 59: Ilıpınar IX and VIII. Settlement plan (after Roodenberg 1995, fig. 19).

most vital indicator of this is the appearance of characteristic, very fine channelled decorations, which denote the horizon of Karanovo II and Ovcharovo-Gorata in the north (Thissen 2008, figs. 5/1, 3–5, 7; 8/6–7; 9 [P.26, P.29]) (Fig. 58). Nevertheless, the pertinent forms at Ilıpınar are rather wide, embouched forms, while this horizon is characterised by narrow beaker forms within the eastern Balkans. More comparable with one another are the large, bulbous vessels already appearing in Ilıpınar Va with vertically constricted necks and handles attached to their sides (cf. Thissen 2001, figs. 73–74. – Van As, Jacobs, Wijnen 2001, fig. 1/3–4. – Thissen 2008, fig. 3). Further similarities between Ilıpınar Va and Ovcharovo-Gorata may be demonstrated in the bowls, particularly among examples with a wide incised or impressed adornment (cf. Thissen 2001, figs. 75/9–10; 76/1). Finally, also striking is the conformity of the channelled bowls from Ilıpınar Vb with those from Ovcharovo-Gorata (Thissen 2008, fig. 8/6–7). In terms of form, connections may accordingly be made between Ovcharovo-Gorata and Ilıpınar Va, but most prominently Ilıpınar Vb.[18] It should thereby have become clear that connections within the Balkan region might first be established by means of pottery during the period of the Balkan-developed Early Neolithic, a chronological horizon which can no longer be associated with the neolithisation occurring within the regions north of the Aegean.

Further telling is the trajectory of domestic architecture at Ilıpınar. The settlement begins with freestanding

18. This parallelisation is also supported by ^{14}C dates from both sites (cf. Chapter 10; Roodenberg, Schier 2001).

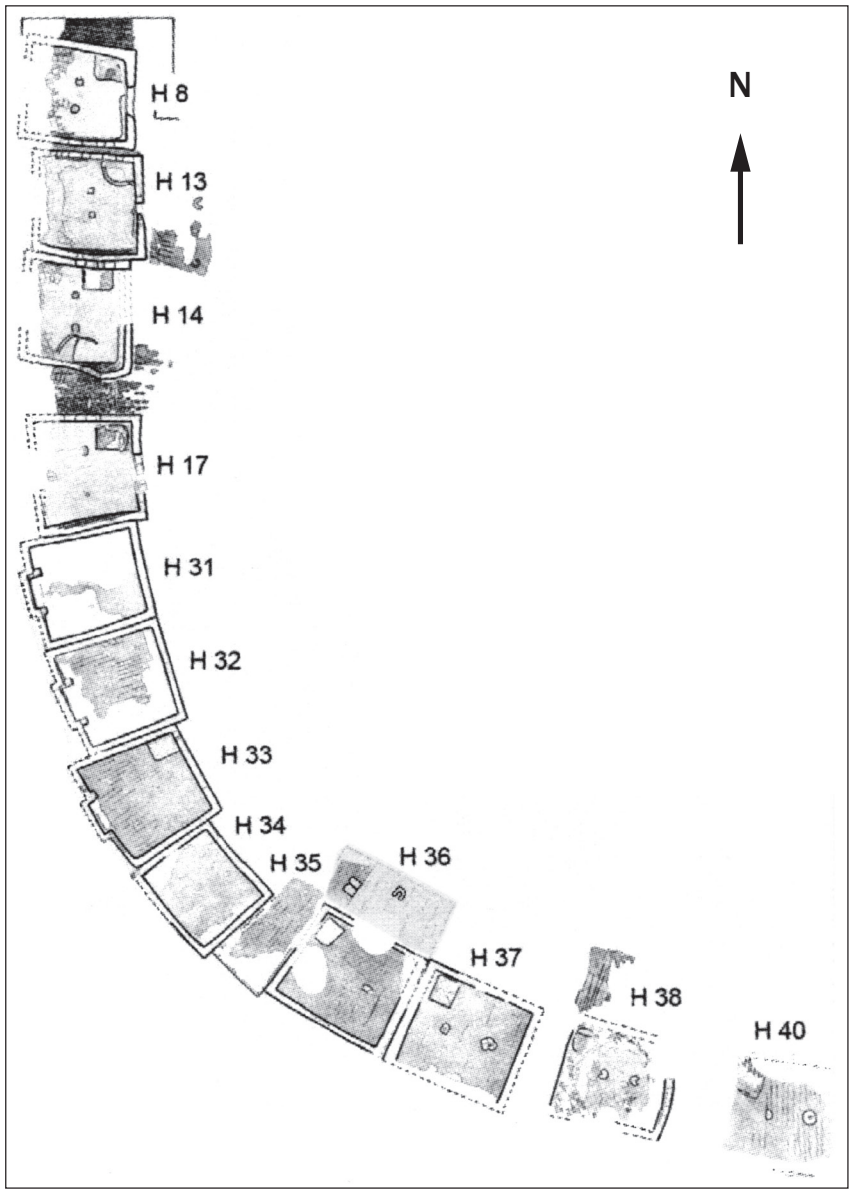


Fig. 60: Ilıpınar VI. The so-called 'boundary' buildings (after Roodenberg, Alpaslan Roodenberg 2013, fig. 4).

wattle-and-post buildings (Roodenberg, Alpaslan Roodenberg 2013, fig. 3. – Roodenberg 2012, 224–226) (Fig. 59). From Ilıpınar VI onwards, these develop into characteristic airdried mudbrick terraced houses built against one another in a distinctive crescent plan (Roodenberg 2012, 226–228. – Roodenberg, Alpaslan Roodenberg 2013, figs. 4–7) (Fig. 60). Here a completely independent tradition of architectural form reveals what might only be deduced from the Aegean coastal zone's tradition of freestanding structures on stone foundations with difficulty. Jacob Roodenberg recognises a transformation in economic model as underlying the new settlement plan at Ilıpınar. The increased production of grain, for example, demanded a new type of house where stores might be kept (Roodenberg 2012). It is quite possible that this building tradition might have exerted some influence further north at a later date as some of the settlements exposed on a larger scale within the eastern Balkans display generally comparable settlement structures, as will be later demonstrated. Nevertheless, this might also reflect a phenomenon of sheer unrelated convergence, as no direct relationship can presently be evidenced. Moreover, the tradition of construction, particularly with airdried mudbricks, does not seem to have penetrated the Balkans during the Early Neolithic.

The trajectory already described for Fikirtepe and Pendik, which might precede the tell of Ilıpınar, can be further

assumed for Menteşe lying south of Lake İznik (Roodenberg 1999. – Roodenberg et al. 2003). The third and earliest settlement layer was subdivided by the excavator into lower, middle, and upper occupation levels (Roodenberg et al. 2003, 19–20), corresponding in total to the development from Archaic to Classical Fikirtepe (cf. Schoop 2005, 206). Should the advent of the earliest ceramic complexes in South-eastern Europe be assumed to have first occurred somewhat parallel to Ilıpınar VIII, then the entire trajectory of the phase Menteşe 3 must have taken place prior to this. Ulf Schoop associates the upper settlement layer of Menteşe 3 with Ilıpınar X. Tellingly, a few sherds with painting already appear within the otherwise monochrome ceramic milieu of Menteşe 3 (Roodenberg et al. 2003, fig. 17/7), which might be interpreted as a further indication that the earliest pottery in the Balkans, to be dated later and also termed "monochrome ceramic", should be viewed critically. After a caesura of considerable duration in settlement termed Menteşe 2, the site is inhabited once more during the developed Chalcolithic. Finds such as biconic bowls with characteristic wide incised motifs in the form of concentric bows or triangular brackets set on top of one another permit a parallelisation of Menteşe 1 with Ilıpınar Va (Roodenberg 1999, figs. 12/7–14; 13/7).

The domestic architecture of Menteşe reflects that found within the earlier layers at Ilıpınar, consisting of free-standing wattle-and-post structures (Roodenberg, Alpaslan Roodenberg 2013, fig. 9). The discovery of an entire graveyard of inhumations with crouched burials (Roodenberg, Alpaslan Roodenberg 2013, figs. 11–16) confirms that the burials at Barcın Höyük hardly serve as an isolated example, but rather as the rule within the Marmara region. In contrast to the Aegean sphere, but also to the entire Balkans, the dead were buried near the settlement in an additionally installed graveyard.

Since 2004, the University of Istanbul has conducted excavations together with the Archaeological Museum of Bursa at the complex, multi-layered site of Aktopraklık by the village of Akçalar, some 25 km west of Bursa, on the eastern bank of Lake Ulubat (Karul, Avci 2013).[19] This comprises a level Chalcolithic settlement (A), a Chalcolithic tell of at least four layers (B) and a further, multi-level Neolithic settlement overlaid by a Chalcolithic graveyard (C) (Karul 2006. – Karul 2007. – Karul 2008). According to the excavator Necmi Karul, the site presently displays the following stratigraphy: the finds of the single level of Aktopraklık A may be parallelised with those of Ilıpınar Va. The site of Aktopraklık B neighbouring to the north is connected to this settlement layer but is overlaid by levels with Ilıpınar Vb material and, above these, a heavily perturbed horizon. Finds from material at the foot of the mound to be associated with Ilıpınar VIII may suggest an even earlier settlement which has not yet been able to be adequately researched. A few vessels also originating from this level might be compared to those of Yarımburgaz due to their characteristic incised decorations (Karul 2006, 126, above. – Karul 2007, fig. 6). Somewhat apart from the tell lies the grave field appertaining to the Chalcolithic settlement, beneath which a Neolithic settlement of at least two strata might be found (Aktopraklık C), which Karul associates with Ilıpınar IX–X or Archaic Fikirtepe. Large numbers of the finds from the later levels of Aktopraklık B display similarities to material from Ovcharovo-Gorata and Dzhulyunitsa IV, which holds, in fact, more weight than the finds from Ilıpınar Vb, as hardly any impression decorated pottery is known from the latter. Albeit the amount of impression adorned pottery has already reduced in comparison to the Balkan Early Neolithic, it is attested in greater numbers in the material from Ovcharovo-Gorata. Taking this into account, the absence of impression adorned sherds in the material from Ilıpınar Vb poses a problem for the parallelisation of the both sites. Within the material from Aktopraklık B, an adornment with wide incised bands filled with small, angular incisions can be added (Karul 2007, fig. 5, below left), a mode of decoration also reminiscent of the incisions organised into bands from Ovcharovo-Gorata.

One peculiarity is a red-slipped vessel inlaid with small, white limestone beads (Fig. 61). There are signs of such beads being produced at Aktopraklık (Karul, Avci 2013). The find is remarkable because it shows us a durable type of white-on-red decoration. Unfortunately, the piece is unique until now, and so it remains uncertain whether it is the archetype for the technique of white-on-red painting of ceramics.

The large-scale excavation of Aktopraklık B demonstrates a form of mudbrick buildings constructed tightly against one another in a crescent as already known from Ilıpınar. Within their interiors, the individual domestic units display pilasters supporting the roof (Karul, Avci 2013, figs. 12–15, 17). Further structures, sometimes free-standing, may be found both inside the settlement and outside the half-circle. A very wide ditch plastered with lime mortar runs between the settlement areas (Karul, Avci 2013, 49–50, fig. 14), the function of which remains enigmatic. The

19. In 2006, the present author had the opportunity to visit the excavations while they were underway. He thanks the excavation director Necmi Karul for information about current work and results and, additionally, for the opportunity to study portions of the find material in the excavation house in Akçalar and in Istanbul.



Fig. 61: Aktopraklık B. Red slipped vessel with limestone bead inlays from a burial (after Karul, Avcı 2013, fig. 20).

settlement of Aktopraklık B thereby presents the prototype of a settlement of the Late Neolithic-Early Chalcolithic within the area of the Marmara which, while attestable at many sites within the region, cannot be derived from either the Aegean or the Neolithic of southern Anatolia. Individual finds of sherds with impresso adornments or a coating of red paint (Karul, Avcı 2013, fig. 19) and obsidian tools (Karul, Avcı 2013, fig. 21), do certainly indicate connections with the maritime network of the Aegean zone. Nevertheless, these are not so numerous that it might be concluded that Aktopraklık was itself directly involved in this network of exchange. On account of the black burnished ware, Brami and Heyd envision a direct connection of the Early Neolithic in the Marmara region with the south-western Anatolian littoral (Brami, Heyd 2011, 178–179).

Hence, a multifaceted Neolithic might be encountered in the Marmara zone, this possessing its own architectural tradition of wattle-and-post buildings built tightly against one another in a crescent and a specific form of burial in discrete graveyards which nevertheless are only periodically related to the neighbouring region to the south. As to whether the impetus for the neolithisation of the Marmara region must have originated from outside can at the very least be questioned on the strength of the finds from Çalca and Musluçeşme. Close connections are displayed there with the region east of them (next to be discussed), although this area is little studied in comparison. The region of the Marmara evidently no longer partook in the maritime networks of the north-eastern Aegean, despite recurrent finds demonstrably from this region. The ties to the Balkan sphere (very much of interest here) are first evident and numerous during the phase of the developed Early Neolithic in the Balkans, so that this region cannot have played an important role in the Balkans' neolithisation in spite of its close proximity.

3.8. The Porsuk-Sakarya Region

On account of its propinquity to the Marmara region and its location on the south-western shore of the Black Sea, the role of the Porsuk-Sakarya region should also be studied as a potential impetus for the neolithisation of the Balkans. Due to the upper course of the Sakarya and the Porsuk (its most important tributary), the region lies geographically closer to the south-western Anatolian maritime region and possesses a good communication route to the eastern Balkans through the estuary of the Sakarya into the Black Sea. A methodological problem is posed by the fact that little to no architectural forms are preserved from this region, so that only a comparison of ceramic forms might currently be made.

Only a few ceramic finds are known from the site of Keçiçayırı, which the excavators generally place in the period prior to Classical Fikirtepe (Efe, Gatsov, Nedelcheva 2012, 228–229 and figs. 9–10). Stratigraphic observations suggest that a further level might be found beneath this, although producing only stone tools and lacking ceramic finds (Efe, Gatsov, Nedelcheva 2012, 229–230). Taking these artefacts as a point of departure, discussion has also emerged in respect of an autochthonous development of the regional Neolithic. Brami and Heyd also consider this material as heterogeneous in contrast to finds from Çalca and Musluçeşme, and believe it emphasises most prominently the breaks in the cultural trajectory leading to the Neolithic (Brami, Heyd 2011, 186–192).

A broader spectrum of vessel pottery forms has been published from the settlement of Orman Fidanlığı (Efe 2001). From markedly apparent connections to Hacılar in the south-western Anatolian Lakes region and (most prominently) the parallelisation with Levels VI–Vb at Ilıpınar, the lowest strata of Orman Fidanlığı I–V may be chronologically ascribed to the second quarter of the 6th millennium BCE (Efe 2001, 57–61. – Schoop 2005, 297–298); this, in turn, reflects the absolute dating of Ovcharovo-Gorata and Dzhulyunitsa IV in northern Bulgaria. Beyond the general similarities, for example among the various bowl forms (Efe 2001, figs. 1, 2/12–23) and globular bowls with narrow mouths (Efe 2001, figs. 3/33–35/43), only a very few parallels may be evidenced within the find material. Globular, slightly carinated pots with constricted necks, as are typical in Orman Fidanlığı I–V (Efe 2001, figs. 3/41–51; 4/52–57; 6/115; 7; 10/168–171; 14/242–246), are entirely missing in the material from Ovcharovo-Gorata. On the other hand, the channelled beakers characteristic of the eastern Balkan region are not

attested anywhere within Anatolia. The striking similarity of individual vessels from both sites such as in the case of a few globular bowls (cf. Efe 2001, fig. 6/109), the motif of a circumferential row of incisions at the break of a carinated bowl (cf. Efe 2001, fig. 1/12), or the circumferential fir branch or fish scale incised pattern appearing at both sites (cf. Efe 2001, fig. 11/187–189) permit the recognition of a shared zeitgeist, in spite of all other disparities. Interestingly, the side strap handles found almost exclusively on beakers at Ovcharovo-Gorata find excellent counterparts in Orman Fidanlığı I–V, although on highly varied vessel forms (cf. Efe 2001, figs. 1/13; 3/33; 8/125; 11/180; 14/239–241; 15/252). Remarkable also is the appearance of red and dark painting on some vessels of the earlier levels of Orman Fidanlığı I–III (most noticeably), as almost exclusively monochrome ceramics are known from the Marmara region neighbouring to the west. It is therefore exciting to recognise a further parallel, inasmuch as only linear motifs appear at Orman Fidanlığı, just as is the case at Ovcharovo-Gorata.

A large quantity of Neolithic-Chalcolithic finds was unearthed within the Early Bronze Age site of Demircihüyük (Seeher 1987). This may be explained by the removal of an earlier settlement mound by the Bronze Age population in order to use its sediment in the construction of walls and houses. For want of stratified observations, Seeher divided the material into various groups of wares ranging from A to E, these dating from the Neolithic to the Middle Chalcolithic. By means of comparison with other, stratified sites, the ceramics could successfully be ordered within a relative chronology. For the so-called *Schieferware* A, Seeher recognises parallels with the lowest levels of Çatalhöyük-East (Seeher 1987, 46–48). He dates the so-called *Glimmerware* B to somewhat later, locating it chronologically somewhere between the upper levels of Çatalhöyük and the Late Neolithic levels of Hacılar (Seeher 1987, 48–49). On the other hand, he also recognised certain parallels of Ware Group B with the Fikirtepe Phase (Seeher 1987, 49–50). The forms of Wares A and B partially display grooved rims and the characteristic fine incised decoration so that at least part of the material must be understood as contemporary with Fikirtepe. Also ascribed precisely to Fikirtepe is Seeher's Ware C which presents a comprehensive type spectrum with box-shaped vessels and S-profiled bowls (among other examples). By means of contrast, Schoop considers a unified dating of Wares A–D to a phase with Archaic Fikirtepe as likely, thereby excluding an earlier dating for only Wares A and B from Demircihüyük (Schoop 2005, 295). The red painted Ware D and the so-called *Steingrus Ware* is also associated by Seeher with Hacılar without attempting any closer precision of this dating within the trajectory (Seeher 1987, 50–51). The appearance of so many painted sherds in a region otherwise displaying an overwhelmingly monochrome Neolithic-Chalcolithic production is remarkable regardless. It might be speculated as to whether the red painted Ware D belongs within a later context, such as among the Late Chalcolithic Wares F and G, as it seems quite foreign to Fikirtepe's cultural milieu. Presumably, this should instead be associated with the red painted vessels from Orman Fidanlığı I–III, although this would also result in a markedly later date. In respect to the ceramic sequence of Ilıpınar, a large number of the forms of the *Steingrus Ware* E may also easily be associated with Phase VIII there, if one considers, for example, the numerous impression-decorated sherds, which are not yet attested at Fikirtepe (Seeher 1987, pl. 21/1–10. – This was already noticed by Schoop 2005, 296). The characteristic false lugs and the very typical stepped incised motif of the Yarımburgaz facies are to be added here (Seeher 1987, pls. 20/24–25; 21/17–19). Two S-profiled pots adorned with curved incised motifs could be even later, if they were to be compared with similar forms from Ilıpınar VII–Va (cf. Thissen 2001, figs. 62/14–15; 63/5–8; 70/2–5; 71). Accordingly, the trajectory stretching from Classical Fikirtepe to Ilıpınar VIII seems at the very least present at Demircihüyük.

3.9. The Marmara and Porsuk-Sakarya Regions as a Barrier between the Neolithic Cultural Trajectory in Western Anatolia and the Balkans

The documented archaeological record within the Porsuk-Sakarya region is thus somewhat sparse in contrast to the region of the Marmara. Nevertheless, the essential connections may still be ascertained from the scarce information available from the ceramic finds. In a sense, the region stands between the Neolithic of the south-western Anatolian Lakes region and the area of the Marmara, which might, after all, be expected in light of its geographically intermediate location. Here, the site of Keçiçayırı also provides a basis for a discussion as to the for and against of an autochthonous development of the local Neolithic. Despite the natural access to the Black Sea, the connections most pertinent to the Balkan region are sparse and only concern the developed Early Neolithic of the Balkans, much as in the case of the Marmara region. Hence, no direct impetus for the neolithisation of South-eastern Europe would seem to have emerged from either the region of the Marmara or that of the southern coast of the Black Sea to the east. Rather, the earliest Neolithic material from the Balkans seems tied to the cultural sequence of central western Anatolia and north-western Anatolia. The Neolithic on the north-western edge of the Anatolian landmass would thus seem to serve as something of a barrier

between the cultural development in western Anatolia and the Balkan region. All demonstrable connections strangely avoid the natural land bridge between the two continents. Should the area of the Marmara and the southern shore of Black Sea be eliminated as an intermediary for cultural contact between western Anatolia and the Balkans, then a transmission via the Aegean must be supposed, which, in turn, could only have occurred by seaways. Favouring this would have been if the Neolithic groups of central western Anatolia and the Aegean had naturally come into contact with the northern coastal zone of the Aegean while the groups of the Marmara and Porsuk-Sakarya regions were evidently unable to establish any sizeable sphere of interaction by means of their strictly overland communication system.

3.10. Thessaly

The transition from Mesolithic to Neolithic, similar to the neolithisation process more generally, has been comprehensively studied in previous years (Alram-Stern 1996. – Perlès 2001. – Reingruber 2008 and the further literature cited in their bibliographies). Hence, only a brief summary of the most important discoveries need be outlined here. A reassessment of the settlement sequence of the Thessalian tell settlements has contributed to a fundamentally new understanding of the process of neolithisation in the western Aegean. On nationalistic grounds, an autochthonous emergence of the Neolithic in Greece had long been presumed (cf., e.g. Theocharis 1973). As an argument for the great antiquity of the Neolithic, the existence of a Pre-Pottery Neolithic was postulated not only for Crete or similar, but also for the mainland and (more precisely) for Thessaly (Milojčić 1960). A review of the excavation documentation of the so-called 'Kreuzgraben' at Argissa-Magula by Agathe Reingruber has revealed that the lowest 'aceramic' levels at this site are indeed a fully realised Neolithic with pottery (Reingruber 2008, 134–147). The Neolithic trajectory in Thessaly accordingly begins at 6400 calBC with monochrome pottery, partially red-slipped, which appears just prior to this in western Anatolia. This detail alone demonstrates a clear dependency of the neolithisation process on the Greek mainland upon developments in the east. At Argissa-Magula, this corresponds to the lowest settlement levels of 31–28b, designated as Early Neolithic I (Reingruber 2008, 155–156). Following this, within Layers 28a–25 is the so-called Early Neolithic II with blacktopped ceramics and earlier painted pottery with simple triangular patterns and (in addition) both red and white coatings of paint. Following 6000 calBC, impresso ceramics appear in Thessaly for the first time with the Early Neolithic III and with Settlement Layer 24 at Argissa-Magula (Reingruber 2008, 213–219). Also valuable is the statistical assessment of the decorative techniques and painted motifs from Achilleion which demonstrate that pinkish-, grey-, and tan-slipped pottery occurs at the outset of the ceramic trajectory, this being successively replaced by dark red brown-, red buff-, and ultimately red- and orange-slipped ceramics (Gimbutas, Winn, Shimabuku 1989, fig. 5/1–5).

A transformation may also be charted in domestic architecture. While the earlier Early Neolithic levels are characterised by buildings constructed from posts, wattle, and daub, mudbrick architecture is established after 6000 calBC. Developments are similar at Achilleion, although the mudbrick structures there were erected upon stone foundations (Gimbutas, Winn, Shimabuku 1989, fig. 4/5). Otzaki has been revealed to have had much larger brick structures with columns along the interior walls serving to support the roof (Sinos 1971, pl. 17, fig. 43. – Perlès 2001, fig. 9/3). This detail also hints at influence from regions east of the Aegean.

3.11. Greek Macedonia

It is only recently that certain sites have been identified in which Neolithic settlement begins as early as in Thessaly, that is, already in the mid-7th millennium BCE. The sequence of radiocarbon dates from the site of Mavropigi-Filotsairi already begins at 6400 calBC (Karamitrou-Mentessidi et al. 2015). Two earlier dates must be treated with caution on account of their isolated position. The material from Paliambela-Kolindros and Revenia Korinos should be of similar age (Urem-Kotsou et al. 2014). This comprises of monochrome, partially red-slipped vessels with plain forms, among these spherical pots and bowls with simple feet or only slightly pronounced ring bases. Interestingly, impresso-adorned wares already appear with the earliest ceramics (Karamitrou-Mentessidi et al. 2015, figs. 31–34. – Urem-Kotsou et al. 2014, fig. 2). Should this mode of adornment have established itself earlier in Greek Macedonia than in Thessaly on account of maritime contact? At Nea Nikomedeia, a site studied for a longer period, a three-phase development may be evidenced, wherein the pottery largely corresponds to that from Thessaly (Reingruber 2008, 392–399).

Nevertheless, in contrast to Thessaly, no alteration in the architectural form of houses may be discerned for the entire Early Neolithic trajectory. This development begins with wattle-and-daub structures (Karamitrou-Mentessidi et al. 2015, figs. 4–15) and continues thereafter as such (Perlès 2001, fig. 9/1). Quite evidently, sufficient wood continued to be available for the construction of houses here.

3.12. The Sub-Mediterranean-Aegean Biogeographic Region

Should the location of the Early Neolithic sites in South-eastern Europe be considered, then the earliest of these can be found to have been distributed almost entirely within a specific biogeographic area. This is a zone described by Pavle Cikovac (Cikovac 2002, 22–25) as the Sub-Mediterranean-Aegean Biogeographic (SMAB) region. This encompasses the whole northern and north-western edge of the Aegean, namely Thessaly, Greek Macedonia, and Greek Thrace, only penetrating the interior of the Balkans along the river courses of the Axios/Vardar, Struma, and Mesta respectively (Fig. 62). Within the Republic of North Macedonia, only the zone of the Vardar proper and northern Pelagonia are included in this. In Bulgaria, this is restricted to the narrow banks of the rivers Struma and Mesta, a canyon-like landscape opening southwards to the Aegean. The barrier of the mountain ranges of the southern Balkan zone consisting of the Rhodopes, Pirin, Rila, Belasitsa, Osogovska Planina, Sredorek, Suva Gora, and many other small Macedonian mountains (all over 2000 m, Musala in the Rila reaching 2925 m) prevent a dissemination of the influence of the Mediterranean climate further inland (cf. Cikovac 2002, 25, although therein in respect to the Adriatic-Mediterranean zone). Accordingly, subtropical flora is only distributed within the Thessalian basin, in the broad coastal zone of Greek Macedonia, and in the three aforementioned river valleys. Notable are most prominently thermophile species such as the semi-evergreen Macedonian oak (*Quercus trojana*), the European hop-hornbeam (*Ostrya carpinifolia*), the Oriental hornbeam (*Carpinus orientalis*), and the manna ash (*Fraxinus ornus*) (Cikovac 2002, 25). Nevertheless, the maps plotted by Cikovac (primarily for the Dinarides) do not reproduce this. It might be presumed that the SMAB zone extends somewhat further north until approximately the edge of the Istranca/Stranzdha range, as some of the tree species mentioned are spread as far afield as Edirne. Nevertheless, it is less likely that the sub-Mediterranean zone exceeds the present-day border with Bulgaria in scope.

The SMAB zone is conceived of as somewhat broader than the region of the natural distribution of the European olive tree (*Olea europaea*) (Zohary, Hopf, Weiss 2012, map 15), which strikingly comprises those areas which participated in the previously described networks of the circum-Aegean Neolithic. While the olive tree was first cultivated significantly later, what is pertinent here is initially the area with optimal conditions for farming, as the theory might be proposed at this juncture that this roughly accords with the area of distribution of typical Mediterranean crops. The distribution of the wild olive tree now covers the narrow coastal zone of western Anatolia, from Greek Macedonia merely to the peninsula of Chalcidice, the eastern part of Thessaly and, moreover, the Greek mainland south of the Pindos and, naturally, the Aegean Islands.

The wild fig tree (*Ficus carica*) extends only a little further north (Zohary, Hopf, Weiss 2012, map 17). This area encompasses the southern edge of Turkish Thrace, the broad shore of the northern Aegean up to the Rhodopes, and mainly the entire Greek mainland, with the exception of Pindos. The original region of distribution of the olive and fig trees seems thereby to denote the regions that were ideal for the agrarian lifestyle of the Early Neolithic. Those parts of the Greek mainland lying within the limits of the distribution of the olive and fig trees were accordingly already neolithised during the 64th century BCE, most likely from the direction of western Anatolia (Reingruber 2008, 613–616). Discussion about a further area of origin for the Neolithic lifestyle in Greece, tied to the debate over a Pre-Pottery Neolithic find horizon in Thessaly with specific recourse to the earliest levels of occupation at Argissa-Magula, seems thus to have been presently concluded (Reingruber 2011). Newer radiocarbon dates from Franchthi are evaluated by Catherine Perlès as suggesting a possibly earlier neolithisation of the Peloponnese which should therefore have occurred contemporaneously with that of Crete (Perlès, Quiles, Valladas 2013. – See also Brami, Heyd 2011, 182). However, the focus of this discussion is thus relocated so far south that it becomes ever less pertinent to the neolithisation of the Balkan region.

The natural distribution of the wild grapevine (*Vitis vinifera*) might be assumed to be the geographically limiting factor for the northerly dissemination of the Aegean Neolithic, this being from roughly the 4th millennium onwards among the most important cultivars in the region. In the Early Neolithic, cultivation of the grapevine can hardly be assumed to have already occurred, but the theory whereby the earliest Neolithic of the Balkan region departed from those zones presenting ecological preconditions similar to the Aegean sphere can potentially be charted by means of the wild form of the grapevine. In addition to the Mediterranean in the broadest possible sense, the original region of distribution for the grapevine further encompasses the entire shoreline of the Black Sea (Zohary, Hopf, Weiss 2012, map 16). In South-eastern Europe, the axis of the northernmost distribution of the wild vine follows the coastal strip of the Black Sea, then runs westwards roughly through the middle of the Thracian Plain, following thereafter the north-eastern edge of the Dinarides up to the start of the Slovenian Alps. This region of distribution accordingly comprises the Dobrudja, eastern Thrace, the Rhodopes, North Macedonia, except for the northern

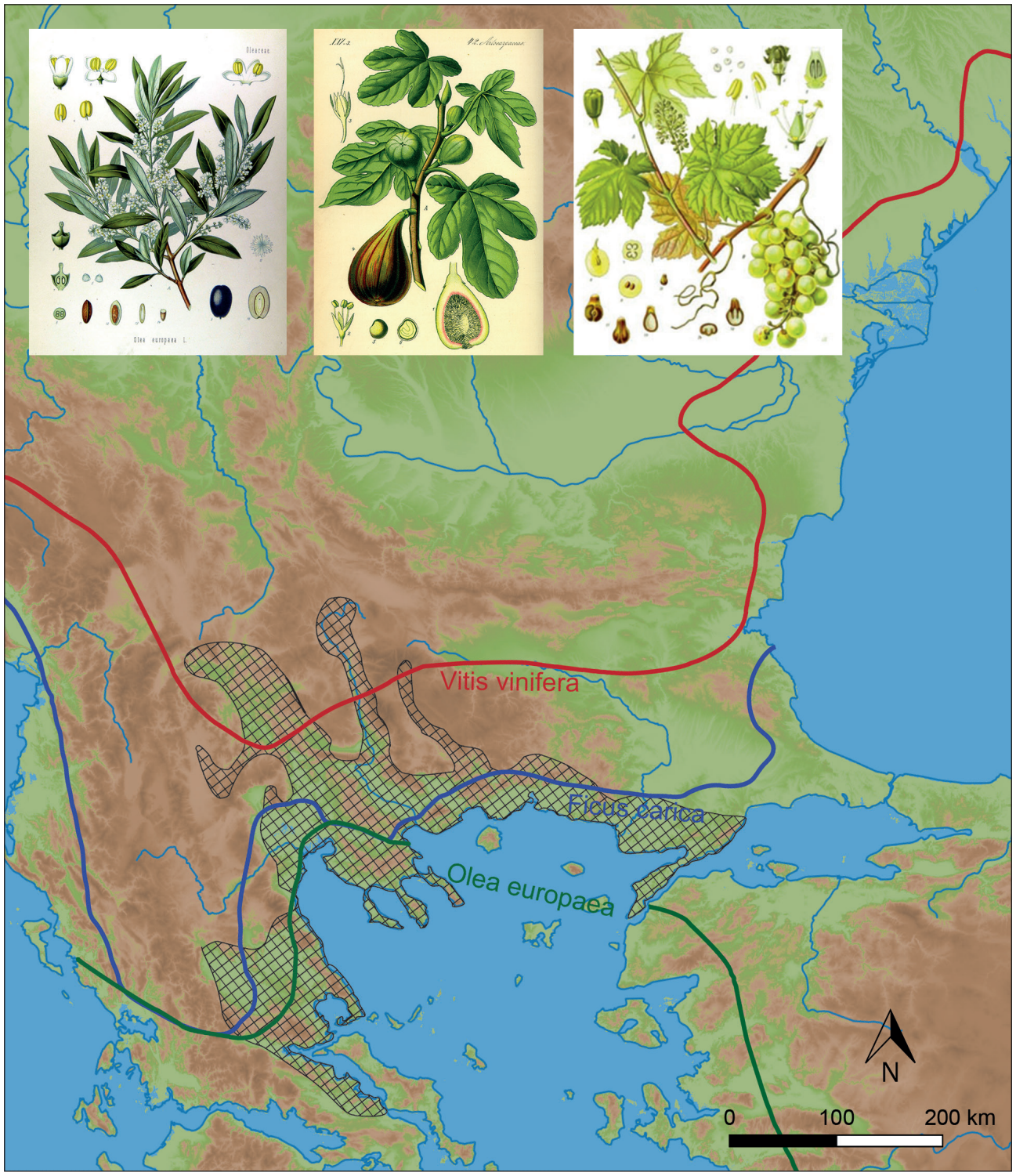


Fig. 62: Sub-Mediterranean-Aegean biogeographical region (hatched) (after Cikovac 2002, fig. 2/8) and the northern border of the distribution of wild grapevine (red), fig (blue) and olive tree (green) (after Zohary, Hopf, Weiss 2012, figs. 15–17).

Vardar zone, Albania, Montenegro, western Bosnia, Dalmatia, and Greek Macedonia. In contrast to the narrower sphere within which the olive tree was distributed, a parity in coverage with the diffusion of the Neolithic can only be occasionally ascertained, and the question arises as to why this might be.

3.13. Early Agriculture and Husbandry in the Sub-Mediterranean-Aegean Biogeographic Zone

Accordingly, allow the Neolithic economic mode and, furthermore, how it developed within the regions of the Fertile Crescent and was propagated over the course of the 7th millennium BCE up to the Aegean to be considered. This refers to an economic model that can mainly occur within differing geographical regions suited to the planting of steppe grasses and pasturage of artiodactyls. Initially chosen for settlement were open landscapes permitting the practice of agriculture without clearing woodland. A veritable challenge for the earliest agriculture would have been the protection of the sown seeds, a requirement generally compelling sedentism among early farmers (Uerpmann 1990). A climate advantageous for the Neolithic economic system should permit multiple sowings and harvestings per year with brief periods of growth and ripening. This first necessitates an appropriately warm climate in spring but also sufficient precipitation. First and foremost, winter in the regions north of the Aegean must have been a genuine threat to the agrarian subsistence. While the spread of the Neolithic in the Mediterranean region is within the same climate zone and largely a uniform vegetation zone, the spread to Central Europe by land also means a change to a different climate zone and across different vegetation zones. South-eastern Europe lies in the temperate continental climate zone, which differs from the Mediterranean climate zone in particular by colder and longer winters. The temperature pattern during the rest of the year, however, is comparable in both regions. That there is a higher amount of precipitation should even have a favourable effect on the cultivation of cereals. The harsher winters, on the other hand, remain problematic as they would be a challenge for the seeds and possibly also for the survival of the herds. Therefore, it only follows that the earliest Neolithic is to be found in those regions lying directly within the SMAB zone and, most vitally, is not subjected to bitter winters. Field weeds provide an indication of the time of sowing of the cereals. Among the potential weeds of the investigated Neolithic settlements in Bulgaria, those that have a focus on winter sowing are common. Studies from Elena Marinova on the potential field weeds indicate that at least at Kapitan Dimitrievo and Karanovo a sowing of grains in autumn was practised (Marinova 2006, 87). Tellingly, both of these sites lie within the Thracian Plain, which was only neolithised at the beginning of the 6th millennium BCE. The shift from an exclusively winter sowing to summer sowing could have taken place during the decisive centuries around the turn of the 7th to 6th millennium BCE, permitting only then the settlement of those regions with harsh winters.

While hardly a comparable existential threat, the regions with a harsh winter climate must have suffered from a less than beneficial effect upon animal husbandry. Within the yearly cycle, the alpine pastures on the high mountains of the southern Balkans would certainly have provided ideal grazing from late spring until autumn, but, nevertheless, the system would have become hazardous during winter. This is also the reason why seasonal transhumance could be encountered here well into the historical periods, within which the grazing animals could winter within the sheltered spaces of the mountain valleys or on the mild littoral of the Mediterranean (Beuermann 1967).

Proceeding from the maritime networks of the Aegean, the SMAB region still remains best suited to the Neolithic economic model. Consequently, those regions lying within the natural zone of distribution of the Mediterranean and then the sub-Mediterranean flora were first neolithised. Probing further northwards, next followed the SMAB zone along the river valleys of the Axios/Vardar, Struma, and Nestos/Mesta. In order to live solely by means of the Neolithic economic model north of the mountainous barrier of the southern Balkans, the Neolithic package would first have had to be adapted to the prerequisites of the comparatively harsh winters.